

Service Manual

Radio Cassette
RX-C60F

Portable Component System with 4 Band Radio



■ SPECIFICATIONS

General:

Power Requirement: AC; 110~115/115~127/200~220/
230~250 V, 50/60 Hz
Battery; 12 V (Eight "D" Size Flashlight
Batteries)
(National UM-1 or equivalent)
Car battery; with optional car
adaptor RP-952

Power Consumption: 35 W (AC only)
Power Output: 15 W (7.5 W×2) . . . RMS (max.)
40 W (20 W×2) . . . PMPO

Speaker: Woofer; 10 cm (4") PM Dynamic
Speaker (3Ω)
Tweeter; 3 cm (1³/₁₆") Ceramic Speaker
(1.3 kΩ)

Input: MIC; sensitivity 0.26 mV/applicable
microphone impedance 200~600Ω
MIX MIC; sensitivity 0.8 mV/200~600Ω
PHONO; sensitivity 2.5 mV/47 kΩ over
LINE IN; 100 mV/47 kΩ over
DC IN; 13.2 V

Output: Ext SP; 3~8Ω
Headphones; 8Ω
LINE OUT; 420 mV/4.7 kΩ under

Dimensions: Total Size
530 (W)×172 (H)×176 (D) mm
(20⁵/₈"×6³/₈"×6¹/₁₆")
Main Unit
298 (W)×172 (H)×176 (D) mm
(11²³/₃₂"×6³/₈"×6¹/₁₆")

Weight:

Radio Section:

Radio Frequency
Range:

Intermediate Frequency:

Sensitivity:

Tape Deck Section:

Frequency Response:

Recording system:

Tape Speed:

Wow and Flutter:

Program Time:

Track System:

Speaker Box

118 (W)×172 (H)×157 (D) mm
(4⁵/₈"×6²⁵/₃₂"×6³/₁₆")

6.4 kg (14 lb. 2 oz.) without batteries

FM; 88~108 MHz
MW; 525~1605 kHz (571~187 m)
SW1; 2.3~7 MHz (130~42.9 m)
SW2; 7~22 MHz (42.9~13.6 m)

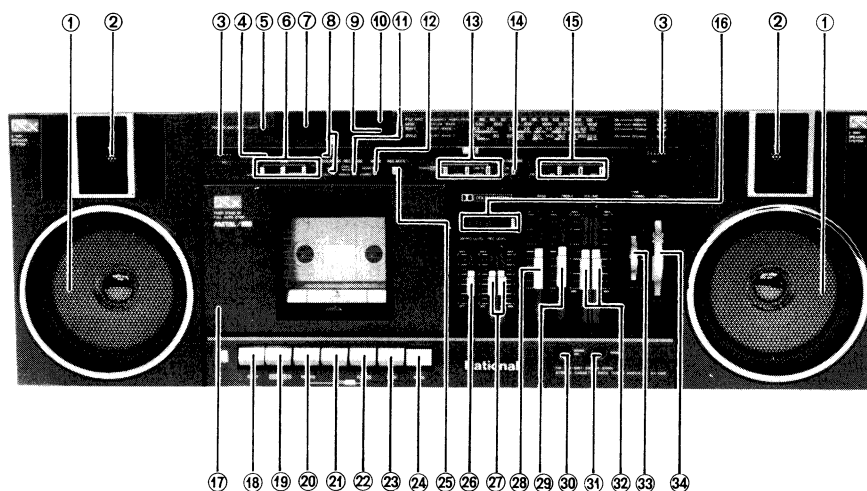
FM; 10.7 MHz
AM (MW/SW); 455 kHz
FM; 3μV/50 mW output
MW; 70μV/m/50 mW output
SW1; 70μV/m/50 mW output
SW2; 8μV/50 mW output

40~12,000 Hz (with normal tape)
40~14,000 Hz (with CrO₂ tape)
40~16,000 Hz (with Metal tape)

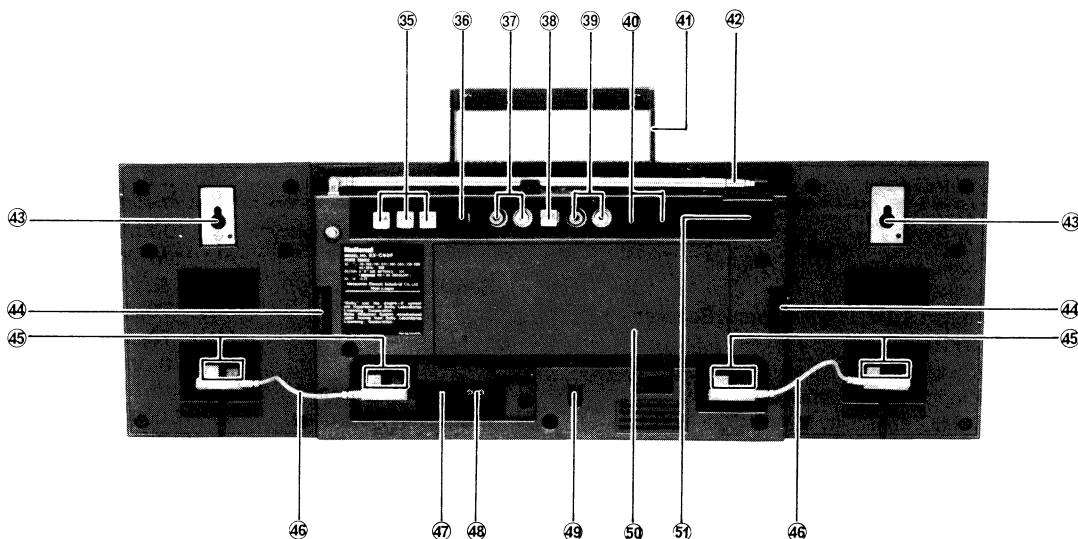
AC bias, AC erase
4.8 cm/s, (1⁷/₈ ips)
0.05% (WRMS)
1 hour with C-60 cassette tape
4-track 2 channel stereo recording and
playback

Specifications are subject to change without notice.

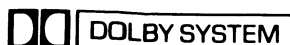
LOCATION OF CONTROLS AND COMPONENTS


Fig. 1

- | | | |
|--|---|--|
| ① Speakers (Woofer) [10 cm (4") 3Ω] | ⑬ Function Switch
(POWER OFF/TAPE, RADIO, LINE IN/PHONO) | ②⑤ Record Muting Switch (REC MUTE) |
| ② Speakers (Tweeter) [3 cm (1 ¼") 1.3 kΩ] | ⑭ Loudness Switch (ON/OFF) | ②⑥ Mixing Level Control (MIXING LEVEL) |
| ③ Built-in Microphones (MIC) | ⑮ Band Switch (BAND) [FM/MW/SW1/SW2] | ②⑦ Recording Level Controls (REC LEVEL) |
| ④ Tape Program Sensing Indicator (TPS) | ⑯ Tape Counter and Reset Button | ②⑧ Bass Control (BASS) |
| ⑤ Power/Battery Check Indicator (POWER/BATTERY) | ⑰ Cassette Compartment | ②⑨ Treble Control (TREBLE) |
| ⑥ Tape Switch (NORMAL/CrO ₂ /METAL) | ⑱ Eject Button (EJECT) | ③① Mixing Microphone Jack (MIXING MIC)
(0.8 mV, 200~600Ω) |
| ⑦ Level Meter (LEVEL) | ⑲ Record Button (RECORD) | ③① Headphone Jack (PHONES) (8Ω) |
| ⑧ *Dolby Noise Reduction Switch and Indicator
(DOLBY NR) [IN/OUT] | ⑲ Rewind Button (REW) | ③② Volume Controls (VOLUME) |
| ⑨ Tuning Indicator (TUNING) | ⑲ Fast Forward Button (FF) | ③③ Fine Tuning Control (FINE TUNING) |
| ⑩ FM Stereo Indicator (FM STEREO) | ⑲ Playback Button (PLAY) | ③④ Tuning Control (TUNING) |
| ⑪ Recording Mode Switch (EASYMATIC/MANUAL) | ⑲ Stop Button (STOP) | |
| ⑫ Mode Switch
(MONO/STEREO) | ⑲ Pause Button (PAUSE) | |


Fig. 2

- | | |
|--|--|
| ③⑤ External Antenna Terminals (AM ANT/FM ANT) | ④④ Speaker Lock Buttons |
| ③⑥ Phono/Line Switch (PHONO•LINE) | ④⑤ Speaker Terminals (3~8Ω) |
| ③⑦ Phono/Line Input Jacks (PHONO)
(Phono: 2.5 mV/47 kΩ over, Line: 100 mV/47 kΩ over) | ④⑥ Speaker Cables |
| ③⑧ Phono Ground Terminal (⌏) | ④⑦ DC Input Jack (DC IN 13.2 V ⊕ ⊖) |
| ③⑨ Line Output Jack (420 mV/4.7 kΩ under) | ④⑧ AC Socket (AC IN ~) |
| ④① Microphone Jacks (MIC) [0.26 mV/200~600Ω] | ④⑨ Voltage Selector (VOLTAGE SELECTOR) |
| ④② Handle | ⑤① Battery Compartment |
| ④③ Telescopic Antenna | ⑤① Beat Proof Switch (I/II) |
| ④③ Speaker Wall Mounts | |



*"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

*Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

DISASSEMBLY INSTRUCTIONS

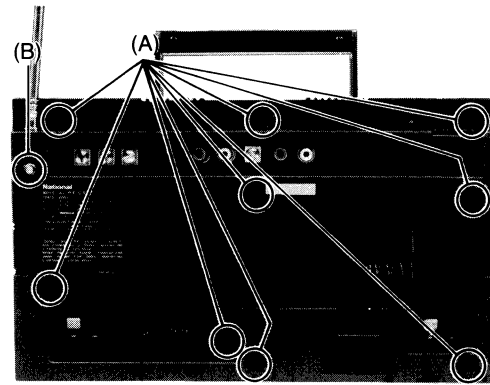


Fig. 3

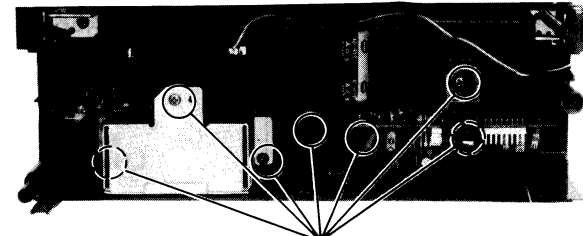


Fig. 8 (F)

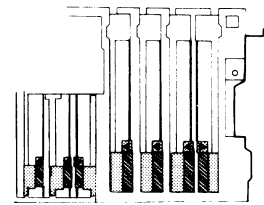


Fig. 9

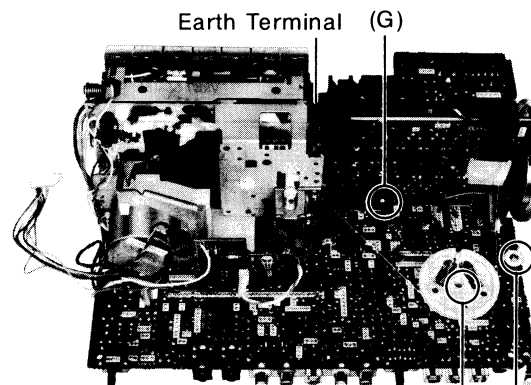


Fig. 10 (M) (L)

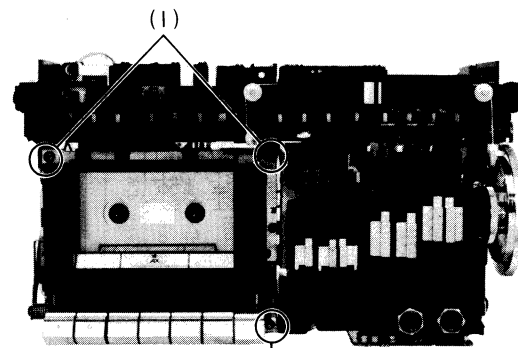


Fig. 11 (H)

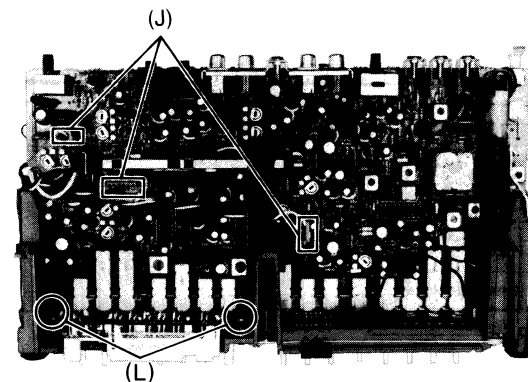


Fig. 12 (L)

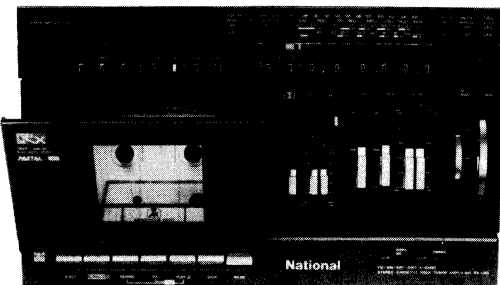


Fig. 4



Fig. 5

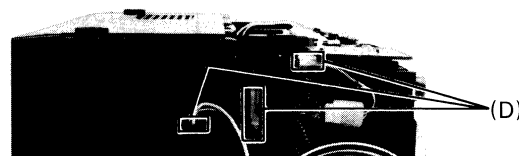


Fig. 6

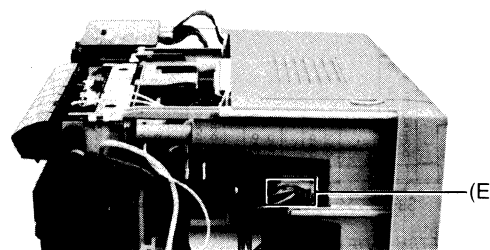


Fig. 7

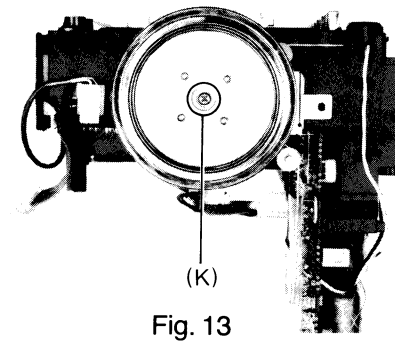


Fig. 13 (K)

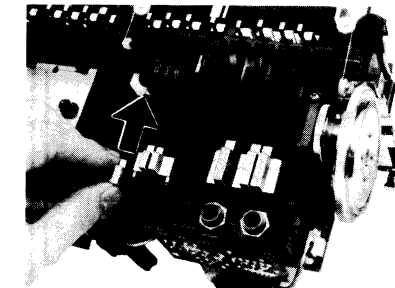


Fig. 16

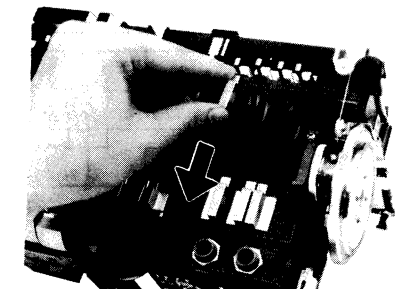


Fig. 17

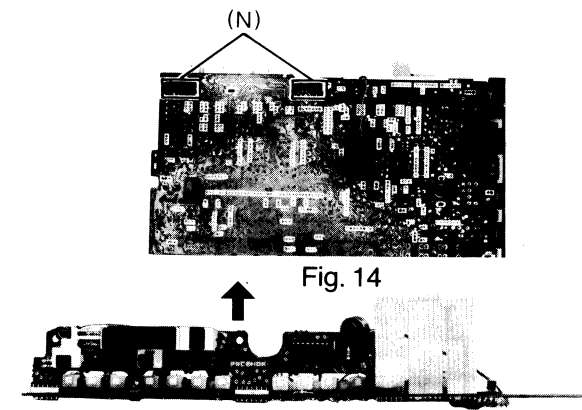


Fig. 14 (N)



Fig. 15

■ DIAL THREADING

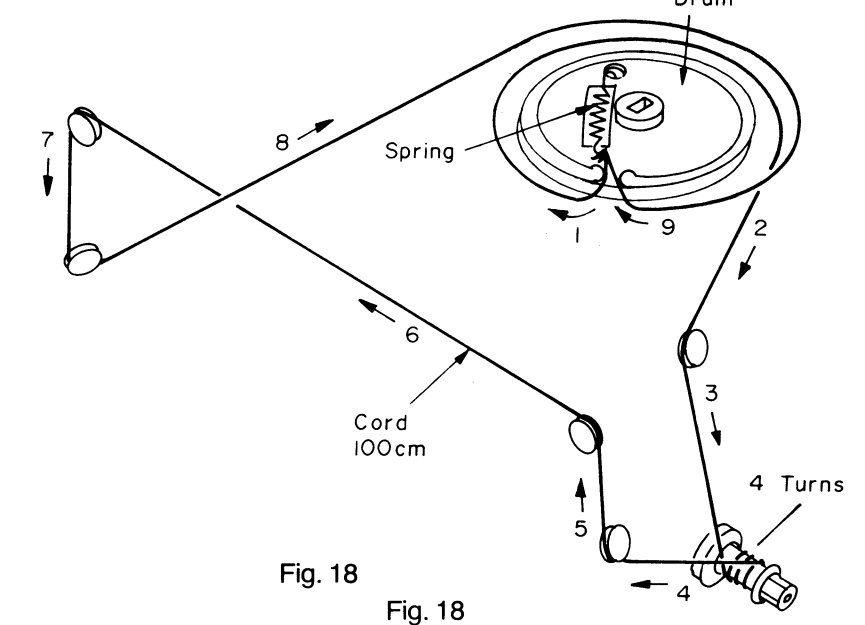


Fig. 18

Fig. 18

Procedure	To remove—	Remove—	Shown in Fig.—
1	Front Cabinet ※1	Battery Cover	—
2		Screw (3×45) (A)×9	3
3		Screw (3×12) (B)×1	3
4		Remove the Cassette Panel in the direction of the arrow.	4
5	Chassis and Power Circuit Board	Shut the Cassette Holder and remove the Front Cabinet.	—
6		Socket (1 pin) (C)×1	5
7		Socket (2 pin, 5 pin, 8 pin) (D)×3	6
8		Socket (5 pin) (E)×1	7
9	Control Circuit Board ※2	Remove the chassis in the direction of the arrow.	5
10		Screw (3×12) (F)×7	8
11		Place the control knobs as shown in the figure.	9
12		Screw (3×10) (G)×1	10
13	Mechanism	Screw (3×10) (H)×1	11
14		Pull out the earth terminal	10
15		Screw (3×10) (I)×2	11
16		Socket (J)×3	12
17	Tuning Knob	Screw (3×6) (K)×1	13
18	Push Switch	Screw (3×10) (L)×3	10, 12
19		Screw (2.6×6) (M)×1	10
20		Remove the Dial Cord.	—
21		LED Circuit Board Soldering Points (N)×2	14
22		Remove the LED Circuit Board in the direction of the arrow.	15
23		Remove the soldering points of the switch.	—

※1 Before removing the Front Cabinet, remove the screw attaching the telescopic antenna.

※2 To reassemble insert the control knobs in the direction of arrow in figure 16 and 17.

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set volume control to maximum.
2. Set bass and treble control to center.
3. Set band switch to MW, SW1, SW2 or FM.
4. Set balance control to center.
5. Set function selector to radio.
6. Set fine tuning to center.
7. Set power source voltage to 12 V DC.
8. Output of signal generator should be no higher than necessary to obtain an output reading.

■ MW, SW1 and SW2 ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM-IF ALIGNMENT						
(1)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/ about 600 kHz)	Output meter across voice coil.	T2 (AM IFT) Adjust for maximum output.
MW-RF ALIGNMENT						
(2)	MW	''	550 kHz	550 kHz (Refer to Fig. 22)	Output meter across voice coil	L7 (MW OSC Coil) (*1) L4 (MW ANT Coil) Adjust for maximum output. Adjust L4 by moving coil bobbin along ferrite core.
(3)	MW	''	1500 kHz	1,500 kHz (Refer to Fig. 22)	''	CT4 (MW OSC Trimmer) CT1 (MW ANT Trimmer) Adjust for maximum output. Repeat steps (2) and (3).
SW1-RF ALIGNMENT						
(4)	SW1	''	2.3 MHz	2.3 MHz (Refer to Fig. 22)	Output meter across voice coil	L8 (SW1 OSC Coil) (*1) L5 (SW1 ANT Coil) Adjust for maximum output. Adjust L5 by moving coil bobbin along ferrite core.
(5)	SW1	''	7 MHz	7 MHz (Refer to Fig. 22)	''	CT5 (SW1 OSC Trimmer) CT2 (SW1 ANT Trimmer) Adjust for maximum output. Repeat steps (4) and (5).
(*1) Cement antenna bobbin with wax after completing alignment.						
SW2-RF ALIGNMENT						
(6)	SW2	Connect to test point  through ceramic capacitor (10 pF). Negative side to test point  .	7 MHz	7 MHz (Refer to Fig. 22)	Output meter across voice coil	L9 (SW2 OSC Coil) L6 (SW2 ANT Coil) Adjust for maximum output.
(7)	SW2		22 MHz	22 MHz (Refer to Fig. 22)	''	CT6 (SW2 OSC Trimmer) Adjust for maximum output. Repeat steps (6) and (7).

■ FM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS	
	CONNECTIONS	FREQUENCY					
FM-IF ALIGNMENT							
(1)	FM	High side thru. 0.001 μ F to test point ∇ . Negative side to test point ∇ .	10.7 MHz (SWP.)	Point of non-interference. (on/ about 90 MHz)	Connect vert. amp. of scope to test point ∇ . Negative side to test point ∇ .	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 20).
(2)	FM	" "	" "	" "	" "	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 21).
FM-RF ALIGNMENT							
(3)	FM	Connect to test point ∇ through FM dummy antenna. Negative side to test point ∇ .	90 MHz	90 MHz (Refer to Fig. 22)	Output meter across voice coil.	L2 (FM OSC Coil) L1 (FM ANT Coil)	(*2) Adjust for maximum output.
(4)	FM		106 MHz	106 MHz (Refer to Fig. 22)	" "	CT8 (FM OSC Trimmer) CT7 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3) and (4).
(*2) Three output responses will be present; proper tuning is the center frequency.							

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98 MHz, 60 dB	∇ ... (+) ∇ ... (-)	VR1	19 kHz	Adjust VR1, for 19 kHz (± 100 Hz) reading on electronics counter.

■ AUDIO ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (10 kHz, -20 dB)	LINE OUT	Maximum output.	Azimuth screw	Playback mode
Playback level	QZZCFM (315 Hz, 0 dB)	LINE OUT	0.42 ± 0.02 V	VR102 (Lch) VR202 (Rch)	Playback mode
LED meter	QZZCFM (315 Hz, 0 dB)	Meter	—	VR107 (Lch) VR207 (Rch)	Adjust VR107, VR207 so that the 2nd LED from the Right begins to go out.
Bias oscillation frequency	—	∇ ... (+) ∇ ... (-)	68 ± 0.5 kHz	L301	Record mode Beat proof switch $\rightarrow$ II Tape selector $\rightarrow$ Metal
Erase current	Use metal tape	∇ ... (+) ∇ ... (-)	140 ± 7 mV	VR302	Record mode Beat proof switch $\rightarrow$ II Tape selector $\rightarrow$ Metal
Bias trap	—	∇ ... (Lch) ∇ ... (Rch) ∇ ... (-)	0 ± 0.5 dB	L101 (Lch) L201 (Rch)	Record mode Beat proof switch ... I $\rightarrow$ II Tape selector $\rightarrow$ Metal
Bias current	Use metal tape	∇ ... (Lch) ∇ ... (Rch) ∇ ... (-)	Metal 4 ± 0.2 mV Normal 1.9 ± 0.15 mV	Metal VR101 (Lch) VR201 (Rch) Normal VR303	Record mode Beat proof switch $\rightarrow$ II Tape selector $\rightarrow$ Metal
Overall gain	EXT MIC f = 1 kHz, -70 dB	LINE OUT	REC ... 32 mV Playback ... 32 ± 2 mV	VR104 (Lch) VR204 (Rch)	1. Place UNIT into record mode, and tape selector to normal. 2. Supply 1 kHz (-70 dB) from AF oscillator to line in. 3. Adjust REC LEVEL until monitor level at test point ∇ and ∇ becomes 32 mV. 4. Playback recorded tape, and make sure the value at line out on the electronics voltmeter becomes $32 \text{ mV} \pm 2 \text{ mV}$.

■ ALIGNMENT POINT ●As for test points, refer to the circuit board, on page 9.

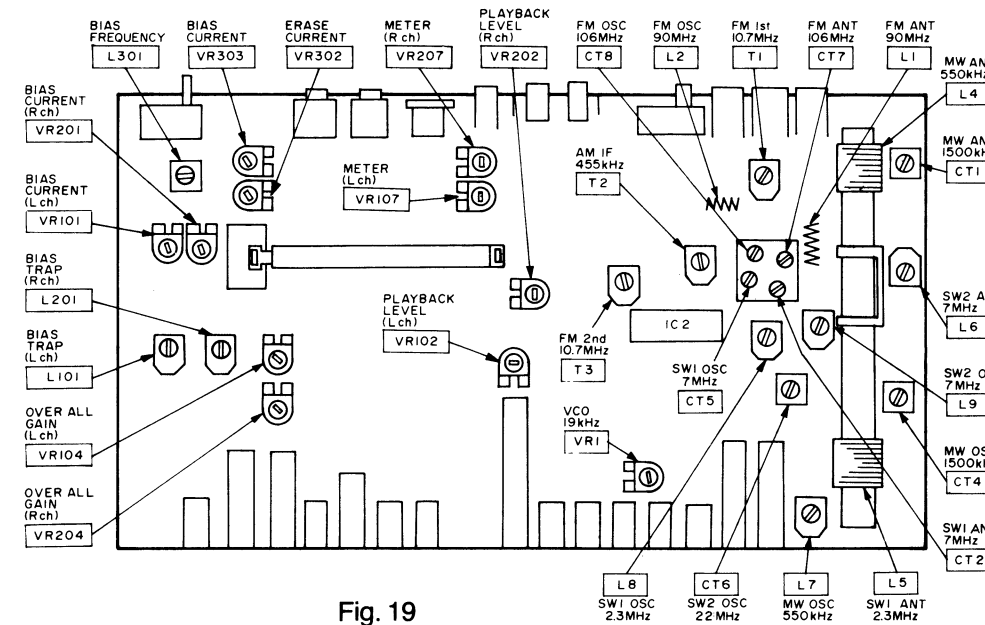


Fig. 19

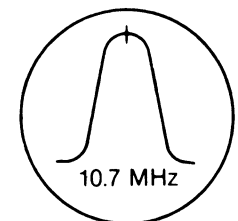


Fig. 20

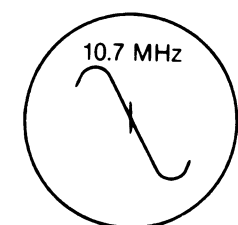


Fig. 21

Notes:

- S1-1~S1-4: Band switch in "FM" position.
- S2-1, S2-2: Loudness switch in "OFF" position.
- S3-1~S3-4: Function switch in "TAPE" position.
(R... RADIO, T... TAPE, L/P... LINE IN/PHONO)
- S4-1, S4-2: Rec mute ON/OFF switch in "OFF" position.
- S5-1, S5-2: Mode switch in "STEREO" position.
(1... MONO, 3... STEREO)
- S6-1~S6-4: Recording mode switch in "MANUAL" position.
(1... MANUAL, 3... EASY-MATIC)
- S7-1, S7-2: Dolby noise reduction switch in "IN" position.
- S8-1~S8-3: Tape select switch in "NORMAL" position.
(N... NORMAL, C... CrO₂, M... METAL)
- S9: Beat proof switch in "I" position.
(1... I, 3... II)
- S10-1: Play ON/OFF switch in "OFF" position.
- S10-2, S10-3: FF, rewind ON/OFF switch in "OFF" position.
- S10-4: Play/stop switch
- S11-1~S11-12: Record/playback switch in "playback" position.
(1... Playback, 3... Record)
- S12-1~S12-4: PHONO/LINE switch in "PHONO" position.
- S13: AC/DC IN select switch in "DC IN" position.
- S14: Voltage select switch.
- VR1: VCO oscillator frequency adjust VR.
- VR101, 201, 303: Bias current adjustment VR.
- VR102, 202: Playback level adjustment VR.
- VR103, 203: Recording level adjustment VR.
- VR104, 204: Overall gain adjustment VR.
- VR105, 205: Bass control.
- VR106, 206: Treble control.
- VR107, 207: Meter adjustment VR.
- VR108, 208: Volume control.
- VR301: Mixing revel control VR.
- VR302: Erase current adjustment VR.
- The mark (▼) shows test point. e.g. ▼=test point 1.
- The mark (*) shows printed-type resistors.
- DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
< >... FM position, ()... AM position,
[]... Recording position. << >>... TPS position.
- Battery current: No signal 150 mA
Maximum output (radio) 580 mA
Maximum output (tape) 860 mA

- Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

ALIGNMENT POINT

Set the left side of the Pointer to the Point below.

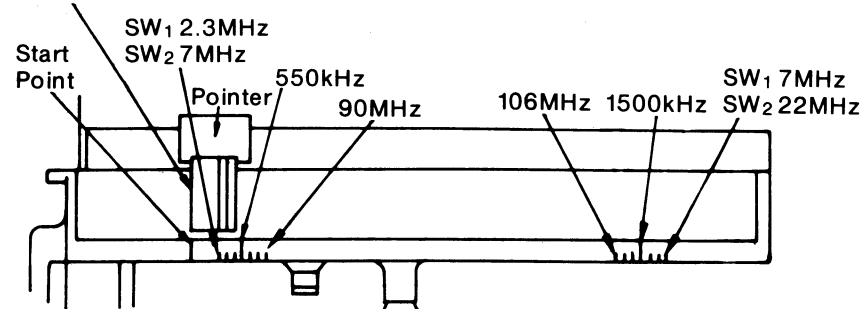
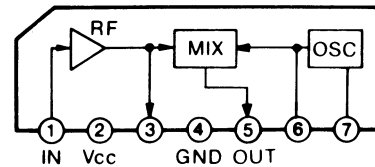
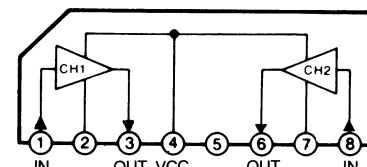


Fig. 22

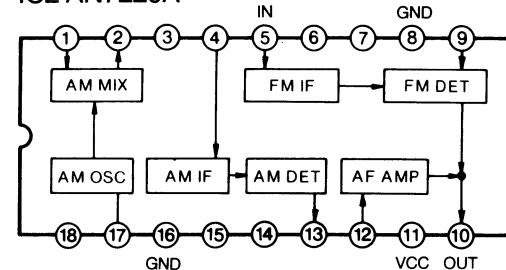
IC1 AN7213



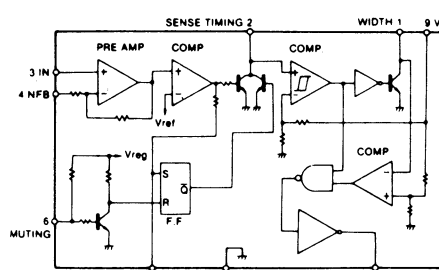
IC302 RVIBA328



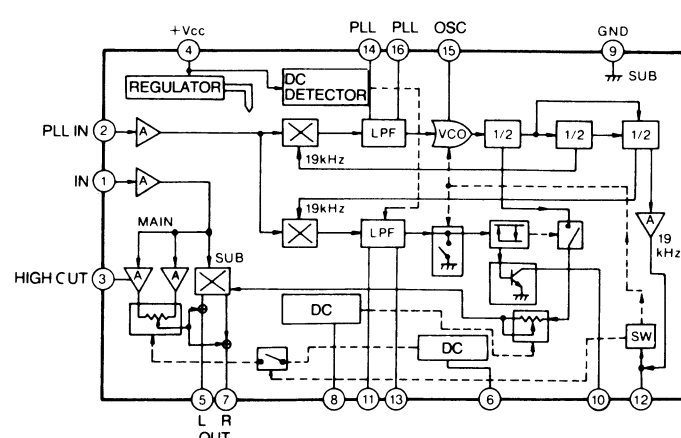
IC2 AN7220A



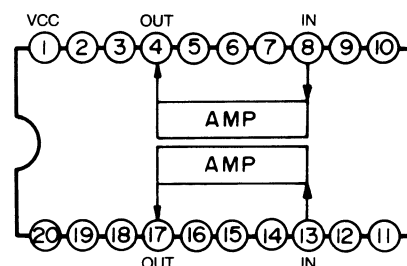
IC303 RVIBA338



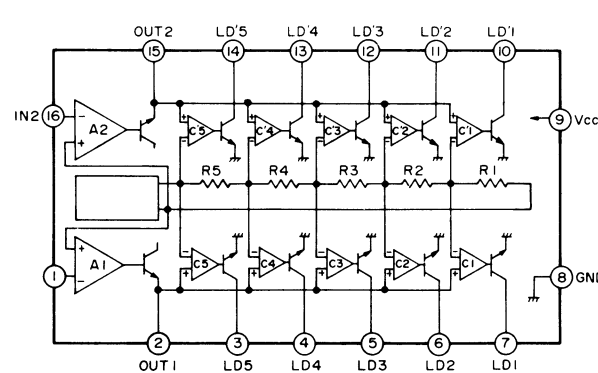
IC3 RVIBA1356



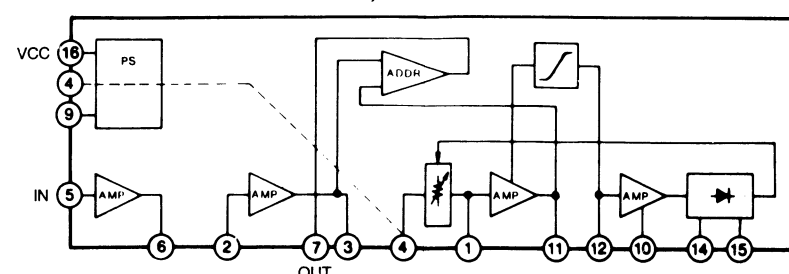
IC304 RVILA4505



IC71 RVITA7666P



IC101, 201 RVINE649N



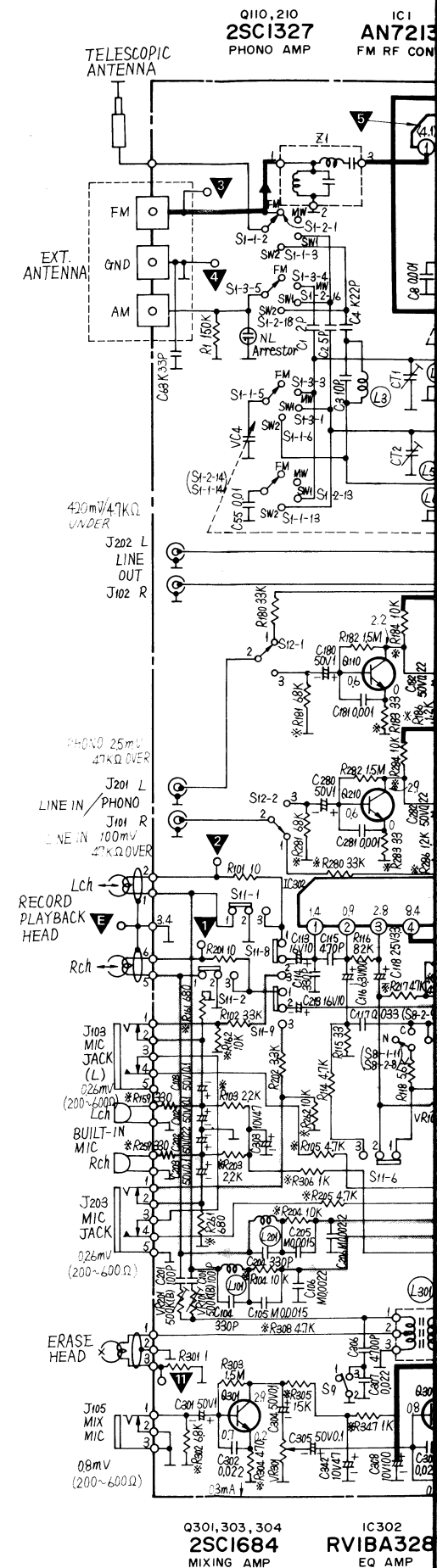
IC1	IC303
IC2	IC304
IC3	Q1~3, 101~106, 111, 201~206, 210, 211, 301, 303~307, 309, 310
IC71	Q308
IC101, 201	D1~3, 101~103, 201~203, 301~304, 306~308, 314
IC302	D305, 309~313

+ ⊕ Voltage Line
Tape (PLAY BACK) Signal Line
Radio (FM) Signal Line
Tape (RECORD) Signal Line

BIAS VOLTAGE
1.9±0.15 mV (Normal)
2.7±0.3 mV (CrO₂)
4±0.2 mV (Metal)

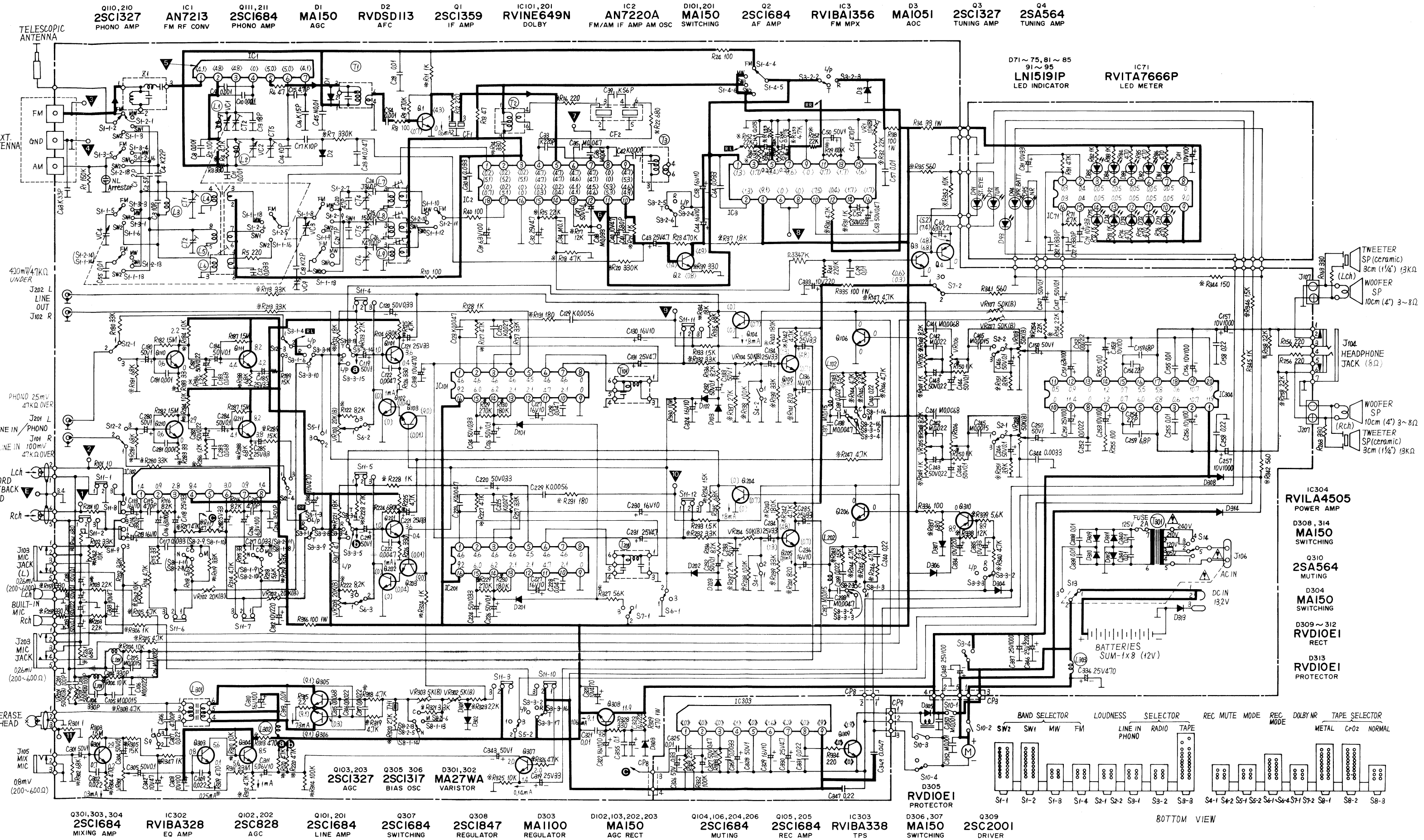
OVERALL FREQUENCY RESPONSE

Metal	100 Hz 0±3 dB 1 kHz 0 dB 10 kHz -1±5 dB
CrO ₂	100 Hz 1±3 dB 1 kHz 0 dB 10 kHz -1±5 dB
Normal	100 Hz 1±3 dB 1 kHz 0 dB 10 kHz 1±5 dB



Q301, 303, 304
2SC1684
MIXING AMP
RVIBA328
EQ AMP

SCHEMATIC DIAGRAM MODEL RX-C60F



BOTTOM VIEW

RX-C100LS FRANÇAIS

SPECIFICATIONS

Généralités:		Section radio:	
Alimentation:	c.a. 110 à 115/115 à 127/200 à 220/230 à 250V, 50/60 Hz Piles: 15V (Dix piles sèches de dimension D) (National UM-1 ou équivalent) Batteries pour bateau: avec adaptateur RP-9550 bateau en option	Gamme de fréquence radio:	FM: 87,5 à 108 MHz GO: 150 à 285 kHz (2000 à 1060 m) PO: 520 à 1610 kHz (577 à 186 m) OC: 5,9 à 18 MHz (50,8 à 16,7 m)
Consommation:	65 W (C.A. seulement)	Fréquence intermédiaire:	FM: 10,7 MHz AM (GO/PO/OC): 455 kHz
Puissance de sortie:	40 W (20W×2)...RMS (max.) 40 W (20W×2)...PMPO	Sensibilité:	FM: 2 µV pour une sortie de 50 mW GO: 100 µV/m pour une sortie de 50 mW PO: 57 µV/m pour une sortie de 50 mW OC: 16 µV pour une sortie de 50 mW
Enceinte acoustique:	Haut-parleur des graves: haut-parleur dynamique 16 cm à aimant fixe (8 Ω) Haut-parleur des aigus: haut-parleur dynamique 6,5 cm à aimant fixe (8 Ω)	Section platine magnétophone:	
Entrée:	MIC: sensibilité 0,26 mV: impédance applicable pour microphone 200 à 600 Ω Microphone de mixage: sensibilité 0,8 mV PHONE: sensibilité 2,5 mV/47 kΩ DC IN: 13,2 V (12~15 V)	Réponse de fréquence:	40 à 12.000 Hz (avec bande normale) 40 à 14.000 Hz (avec bande CrO ₂) 40 à 16.000 Hz (avec bande Métal)
Sortie:	EXT SP: 8 Ω HEADPHONE: 0,5 mW/8 Ω	Système d'enregistrement:	Polarisation C.A., effacement C.A.
Branchement REC/PB:	fiche DIN à 5 broches: IN: sensibilité 18 mV/6 kΩ ou plus OUT: sortie 420 mV/10 kΩ ou moins	Vitesse de bande:	4,8 cm/sec.
Dimensions (l×h×Pr) cm:	Totale grandeur 70,8×25,6×21,7 (27 1/8×10 1/8×8 1/2)" Principal 34,8×25,6×21,7 (13 11/16×10 1/8×8 1/2)" Parleur boîte 18,5×25,6×18,0 (7 1/4×10 1/8×7 1/8)"	Pleurage et scintillement:	0.055% (WRMS)
Poids kg:	11,14 sans piles	Durée de lecture:	1 heure avec cassette C-60
		Pistes:	Enregistrement et lecture stéréo 4 pistes, 2 canaux
		Ces spécifications sont sujettes à des changements sans préavis	

ALIGNEMENTS

INSTRUCTIONS D'ALIGNEMENT

AVANT DE PROCEDER AUX ALIGNEMENTS, LIRE ATTENTIVEMENT CE QUI SUI			
1. Placer le potentiomètre de volume au maximum.	6. Placer la commande de syntonisation fine sur sa position centrale.	7. Régler la tension sur 15V C.C.	8. Régler la sortie du générateur étaloné de façon à ne pas surcharger les circuits.
2. Placer le Commandes d'égaliseur graphique au centre.			
3. Placer le sélecteur de bande sur GO, PO, OC ou FM.			
4. Placer la commande de balance au centre.			
5. Placer le sélecteur de fonctions sur "radio".			

ALIGNEMENT GO, PO, et OC

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRO- NIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
ALIGNEMENT IF sur AM						
(1) PO	Faire une boucle de plusieurs tours de fil et émettre ls signal dans la boucle du récepteur.	455kHz (modulation de 30% à 400Hz)	Point de non- interférence. (à/environ 600kHz)	Voltmètre branché à la bobine oscillatrice.	T2 (AM IFT)	Régler pour une sortie maximum.

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRO- NIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
ALIGNEMENT HF sur GO						
GO	"	145kHz	145kHz [20,04 mm (²⁵ / ₃₂ ")]	Voltmètre branché à la bobine oscillatrice.	L8 (bobine d'oscillateur GO) (* 1) L4 (bobine d'antenne GO)	Régler pour une sortie maximum en glissant la bobine L4 le long du noyau en ferrite.
GO	"	285kHz	285kHz [167,89mm (⁶¹⁹ / ₃₂ ")]	"	CT5 (trimmer d'oscillateur GO) CT1 (trimmer d'antenne GO)	Régler pour une sortie maximum. Refaire les étapes (2) et (3).
ALIGNEMENT HF sur PO						
PO	"	550kHz	550kHz [20,04 mm (²⁵ / ₃₂ ")]	Voltmètre branché à la bobine oscillatrice.	L9 (bobine d'oscillateur PO) (* 1) L3 (bobine d'antenne PO)	Régler pour une sortie maximum en glissant la bobine L3 le long du noyau en ferrite.
PO	"	1.500kHz	1.500kHz [167,89mm (⁶¹⁹ / ₃₂ ")]	"	CT6 (trimmer d'oscillateur PO) CT2 (trimmer d'antenne PO)	Régler pour une sortie maximum. Refaire les étapes (4) et (5).
(* 1) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.						
ALIGNEMENT HF sur OC						
OC	Brancher au point ▼ par un condensateur en céramique (10pF). Côté négatif au point ▼ .	5,9MHz	5,9MHz [7,0mm (⁵ / ₁₆ ")]	Voltmètre branché à la bobine oscillatrice.	L10 (bobine d'oscillateur OC) L5 (bobine d'antenne OC)	Régler pour une sortie maximum.
OC		18MHz	18MHz [177,24mm (⁶¹¹ / ₃₂ ")]	"	CT7 (trimmer d'oscillateur OC)	Régler pour une sortie maximum. Refaire les étapes (6) et (7).

ALIGNEMENT FM

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRO- NIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
ALIGNEMENT IF sur FM						
(1)	FM	Brancher au point 5 via 0,001µF. Côté négatif au point 4.	10,7 MHz (SWP.)	Point de non- interférence. (à/environ 90 MHz)	Brancher la sonde vert. de l'oscillo- scope au point 6. Côté négatif au point 7.	T1 (FM 1 ^{ère} IFT) Régler pour une amplitude maximum. (Voir fig. 19.)
(2)	FM	"	"	"	T3 (FM 2 ^{ème} IFT)	Régler pour une amplitude maximum. (Voir fig. 20.)
ALIGNEMENT HF sur FM						
(3)	FM	Brancher au point 3 via une antenne fictive FM. Côté négatif au point 4.	90 MHz [30,0mm (1 3/16")]	Voltmètre branché à la bobine oscillatrice.	L7 (bobine d'oscillateur FM) L1 (bobine d'antenne FM)	(* 2) Régler pour une sortie maximum.
(4)	FM		106 MHz [158,3mm (6 7/32")]	"	CT8 trimmer d'oscillateur FM) CT4 (trimmer d'antenne FM)	(* 2) Régler pour une sortie maximum. Refaire les étapes (3) et (4).
(* 2) Il y aura trois réponses de sortie; la syntonisation adéquate est la fréquence du milieu.						

ALIGNEMENT DE

ELEMENT	GE
Réglage du signal pilote.	

ALIGNEMENTS A

ELEMENT	
Azimuth	QZ (10)
Niveau de lecture	QZ (31)
FL-mètre (Niveau)	QZ (31)
Fréquence d'oscillation de polarisation	
Courant d'effacement	Ut ba
Eliminateur de polarisation	
Courant de polarisation	Ut ba
Gain total	Mi f = -5

SYMBOLES UTILISES DANS LE SCHEMA

■ ALIGNEMENT DE LA SEPARATION

ELEMENT	GENERATEUR DE SIGNAUX FM BRANCHEMENT SUR LA SOURCE	BRANCHEMENT A L'EQUIPEMENT (COMPTEUR ELECTRONIQUE)	REGLAGE	SPECIFICATION	REMARQUES
Réglage du signal pilote.	98 MHz, 60 dB	 ...(+)  ...(-)	VR301	19 kHz	Régler VR301 pour 19 kHz (±150 Hz) en effectuant la lecture sur le compteur électronique.

■ ALIGNEMENTS AUDIO

ELEMENT	ENTREE	POINT DE MESURE	SPECIFICATION	POINT DE REGLAGE	OBSERVATIONS
Azimuth	QZZCFM (10 kHz, -20 dB)	EXT SP	Régler pour une sortie maximum.	Vis d'azimut	Mode de lecture
Niveau de lecture	QZZCFM (315 Hz, 0 dB)	 ... (canal gauche)  ... (canal droit)	0,42±0,02 V	VR102 (canal gauche) VR202 (canal droit)	Mode de lecture Sélecteur de bande... "NORMAL"
FL-mètre (Niveau)	QZZCFM (315 kHz, 0 dB)	VU Mètre	"0"	VR402 (canal gauche) VR401 (canal droit)	Mode de lecture Sélecteur de bande... "NORMAL"
Fréquence d'oscillation de polarisation	—	 ...(+)  ...(-)	66±0,5 kHz	L302	Mode d'enregistrement Interrupteur anti-battement → I Sélecteur de bande... METAL
Courant d'effacement	Utiliser une bande METAL.	 ...(+)  ...(-)	140± ³ / ₅ mV	VR304	Mode d'enregistrement Sélecteur de bande... METAL
Eliminateur de polarisation	—	 ... (canal gauche)  ... (canal droit)  ...(-)	0±1,5 dB	L102 (canal gauche) L202 (canal droit)	Mode d'enregistrement Interrupteur anti-battement → I → II Sélecteur de bande... METAL
Courant de polarisation	Utiliser une bande METAL.	 ... (canal gauche)  ... (canal droit)  ...(-)	Métal 8±0,3 mV CrO ₂ 5,2±0,3 mV Normal 3,8±0,3 mV	Métal VR101 (canal gauche) VR201 (canal droit) Normal VR303	Mode d'enregistrement Interrupteur anti-battement → III Sélecteur de bande... METAL
Gain total	Micro externe f = 1 kHz, -52 dB	Din input ①, ④ pin output ③, ⑤ pin	Enregistrement ...250 mV Lecture... 250±10 mV	VR103 (canal gauche) VR203 (canal droit)	1. Mettre "UNIT" en mode d'enregistrement, et le sélecteur de bande sur "NORMAL". 2. Amener à la borne micro externe (EXT. MIC.) un signal de 1 kHz (-52 dB) de l'oscillateur b.f. 3. Régler le niveau d'enregistrement jusqu'à ce que le niveau du contrôleur à  et  atteigne 250 mV. 4. Ecouter une bande enregistrée, et vérifier que la valeur à DIN sur le voltmètre électronique atteigne 250 mV±10 mV.

Remarques:

- S2-1~S2-12.....Commutateur enregistrement/lecture en position "playback".
(1...lecture, 2...enregistrement).
- S3-1~S3-6 Commutateur de fonction en position "TAPE".
(1..."TAPE", 2..."RADIO", 3..."PHONO", 4..."DIN").
- S4-1~S4-5 Sélecteur de bande en position "NORMAL".
(1..."NORMAL", 2..."CrO₂", 3..."METAL").
- S5-1, S5-2 Commutateur de stéréo-mono en position "STEREO".
(1..."MONO", 2..."STEREO").
- S6-1, S6-2 Interrupteur de correction physiologique.
(1...ON, 2...OFF).
- S7-1~S7-5 Commutateur "IN/OUT" du dolby en position "IN".
(1...IN, 2...OUT).
- S8 Interrupteur "ON/OFF" de la fonction TPS en position "OFF".
(1...ON, 2...OFF).
- S9 Interrupteur de sourdine FM.
- S10 Interrupteur d'indicateur fluorescent.
(1...ON, 2...OFF).
- S11 Interrupteur d'éclairage du cadran.
(1...ON, 2...OFF).
- S12 Commutateur "RADIO/PHONO/DIN" en position "OFF".
- S13 Touche "ON/OFF" du commutateur d'avance rapiderebobinage en position "OFF".
- S14 Commutateur "ON/OFF" du moteur en position "OFF".
- S15 Commutateur "ON/OFF" du commutateur lecture en position "OFF".
- S16 Interrupteur de détection de programme de bande.
- S17 Commutateur d'amortissement.
- S18-1, S18-2 ...Interrupteur "ON/OFF" du commutateur d'enregistrement silencieux en position "OFF".

Remarques:

- S1-1~S1-10.....Touche "ON/OFF" du commutateur d'avance repiderebobinage en position "OFF".
(1... FM, 2...GO, 3...PO, 4...OC).

- S19 Sélecteur C.A./C.C. en position "DC IN".
- S20 Sélecteur de tension.
- S21 Interrupteur de suppression de battement.
(1...I, 2...II, 3...III).
- La marque () signale un point de vérification. Ex.:  = point de vérification 1.
- La marque (*) signale une résistance imprimée.
- La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
...Position FM, ()...Position AM,
< >.....Position Enregistrement.
- Courant des piles: Pas de signal 250 mA
Sortie maximum (Radio) 3,3 A
Sortie maximum (Bande).....3,17 A
- VR101, 201 Régulateur de tension de réglage du courant de polarisation. (METAL)
- VR102, 202 Régulateur de tension de réglage de gain de lecture.
- VR103, 203 Régulateur de tension de réglage de gain total.
- VR104, 204 Potentiomètre de volume.
- VR105, 205 Régulateur de tension de réglage de niveau d'enregistrement.
- VR301 Régler de fréquence de l'oscillateur VCO.
- VR302 Commande du niveau de mixage.
- VR303 Régulateur de tension de réglage du courant de polarisation (NORMAL).
- VR304 Régulateur de tension de réglage du courant d'effacement.
- VR305 Commande de balance.
- VR401, 402 Régulateur de tension de réglage du niveau des indicateurs.
- VR501~505
601~605 ...Commandes d'égaliseur graphique.
- Remarque importante concernant la sécurité.
Les pièces marquées  ont des caractéristiques spéciales, importantes pour la sécurité.
Lors du remplacement d'une de ces pièces, n'utiliser que les pièces spécifiées par le fabricant.

RX-C100LS DEUTSCH

■ TECHNISCHE DATEN

Allgemeines:		Empfangsteil:	
Stromversorgung:	Wechselstrom: 110~115/115~127/200~220/230~250 V, 50/60 Hz	Wellenbereiche:	UKW: 87,5~108 MHz
	Batterien: 15 V (Zehn Trockenbatterien der Größe "D": National UM-1 o.ä.)		LW: 150~285 kHz (2000~1060 m)
Leistungsaufnahme:	Autosbatterie: über den Autosadapter RP-9550 (Sonderzubehör) anschließbar	Zwischenfrequenz:	MW: 520~1610 kHz (577~186 m)
	65 W (bei Netzbetrieb)		KW: 5,9~18 MHz (50,8~16,7 m)
Ausgangsleistung:	max. 40 W (2×20 W) eff. 40 W (2×20 W)	Empfindlichkeit:	UKW: 10,7 MHz
			LW/MW/KW: 455 kHz
Lautsprecher:	Tieftonlautsprecher: dynamischer PM-Lautsprecher, ø16 cm (8Ω)	Tonbandteil:	UKW: 2µV bei 50 mW Ausgangsleistung
	Hochtonlautsprecher: dynamischer PM-Lautsprecher, ø6,5 cm (8Ω)		LW: 100µV/m bei 50 mW Ausgangsleistung
Eingangsspannungen:	MIC: Empfindlichkeit 0,26 mV, Mikrofonimpedanz 200~600Ω	Aufnahmesystem:	MW: 57µV/m bei 50 mW Ausgangsleistung
	Mischmikrofonbuchse: Empfindlichkeit 0,8 mV		KW: 16µV bei 50 mW Ausgangsleistung
Ausgangs impedanzen:	PHONO: Empfindlichkeit 2,5 mV/mind. 47 kΩ	Bandgeschwindigkeit:	
	DC IN: 13,2 V (12~15 V)		4,8 cm/s
REC/PB- Anschlußbuchse:	EXT SP: 8Ω	Gleichlaufschwankungen:	0,055% bewertet (WRMS)
	HEADPHONES: 0,5 mW/8Ω		1 Stunde mit Cassette C-60
Abmessungen (B×H×T):	5-polige DIN-Buchse	Spurlage:	Stereoaufnahme und -wiedergabe auf 4 Spuren/2 Kanälen
	IN: Empfindlichkeit 18 mV/mind. 6 kΩ		
Gewicht (ohne Batterien):	OUT: Ausgangspegel 420 mV/max. 10 kΩ	Änderungen vorbehalten.	
	Gesamtsumme Grösse 708×256×217 mm		
	Hauptsächlich 348×256×217 mm		
	Lautsprecher Schachtal 185×256×180 mm		

ABGLEICH

■ VORGANGSWEISE BEIM ABGLEICH

BITTE DIESEN ABSCHNITT VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN			
1. Den Lautstärkeregler in die Maximalposition stellen.	5. Den Funktionsschalter auf „radio“ stellen.		
2. Den Regler für graphische Entzerrung stellen.	6. Drehen Sie den Feinabstimmregler in die Mittelstellung.		
3. Den Wellenbereichsschalter auf LW, MW, KW oder UKW stellen.	7. Eine Gleichspannung von 15 V anlegen.		
4. Den Balanceregler in die Mittelposition stellen.	8. Der Signalgeneratorausgang sollte nicht größer sein, als für eine Ausgangsanzeige unbedingt notwendig ist.		

■ LW-, MW- und KW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIKVOLT-METER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
AM-ZF-ABGLEICH						
(1) MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	455 kHz, 30% mod. (Modulationsfrequenz 400Hz)	Der Abstimm-punkt, wo keine Interferenz auftritt (ungefähr bei 600kHz).	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	T2 (AM-ZF-Abgleich)	Die maximale Ausgangsleistung einstellen.

WELLENBAND	SIGNALGENERATOR oder WOBBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIKVOLT-METER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN	
	ANSCHLÜSSE	FREQUENZ					
LW-HF-ABGLEICH							
(2)	LW	"	145 kHz	145 kHz [20,04 mm]	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	L8 (LW-Oszillatorspule) (*1) L4 (LW-Antennenspule)	Die maximale Ausgangsleistung einstellen. L4 durch Verschieben am Ferritkern abgleichen
(3)	LW	"	285 kHz	285 kHz [167,89 mm]	"	CT5 (LW-Oszilatortrimmer) CT1 (LW-Antennentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (2) und (3) wiederholen.
MW-HF-ABGLEICH							
(4)	MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	550 kHz	550 kHz [20,04 mm]	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	L9 (MW-Oszillatorspule) (*1) L3 (MW-Antennenspule)	Die maximale Ausgangsleistung einstellen. L3 durch Verschieben am Ferritkern abgleichen
(5)	MW	"	1.500 kHz	1.500 kHz [167,89 mm]	"	CT6 (MW-Oszilatortrimmer) CT2 (MW-Antennentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (4) und (5) wiederholen.
(*1) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.							
KW-HF-ABGLEICH							
(6)	KW	Über einen Keramik-kondensator (10pF) an den Meßpunkt ▼ anschließen. Den negativen Ausgang an den Meßpunkt ▼ anschließen.	5,9 MHz	5,9 MHz [7,0 mm]	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	L10 (KW-Oszillatorspule) L5 (KW-Antennenspule)	Die maximale Ausgangsleistung einstellen.
(7)	KW		18 MHz	18 MHz [177,24 mm]	"	CT7 (KW-Oszilatortrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (6) und (7) wiederholen.

■ UKW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIKVOLT-METER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
UKW-ZF-ABGLEICH						
(1) UKW	Über einen 0,001µF-Kondensator an den Meßpunkt  anschließen. Den negativen Ausgang an den Meßpunkt  anschließen.	10,7 MHz (SWP.)	Der Abstimm-punkt, wo keine Interferenz auftritt (ungefähr bei 90MHz).	Die Vertikal-amplitude des Oszilloskops an den Meßpunkt  anschließen. Den negativen Ausgang an den Meßpunkt  anschließen.	T1 (1. UKW-ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 19.)
(2) UKW	"	"	"	"	T3 (2. UKW-ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 20.)
UKW-HF-ABGLEICH						
(3) UKW	Über eine künstliche UKW-Antenne an den Meßpunkt  anschließen. Den negativen Ausgang an den Meßpunkt  anschließen.	90 MHz	90 MHz [30,0mm]	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	L7 (UKW-Oszillators-pule) L1 (UKW-Antennens-pule)	(*) Die maximale Ausgangsleistung einstellen.
(4) UKW	"	106 MHz	106 MHz [158,3mm]	"	CT8 (UKW-Oszil-latortrimmer) CT4 (UKW-Anten-nentrimmer)	(*) Die maximale Ausgangsleistung einstellen. Die Schritte (3) und (4) wiederholen.
(*) Es gibt drei verschiedene Ausgangsfrequenzkurven. Stimmen Sie die Mittelfrequenz ab.						

■ KANAL TRE

PRÜFUNG

Einstellung d

■ AUDIO-ABG

EINSTELLUNG

Azimut

Wieder-gabepegel

VU-Anzeige

Oszillations-frequenz für Vormagnetisi-rung

Löschstrom

Vormagnetisi-rungssperre

Vormagnetisi-rungsstrom

Gesamt-verstärkung

	BEMERKUNGEN
	Die maximale Ausgangsleistung einstellen. L4 durch Verschieben am Ferritkern abgleichen.
	Die maximale Ausgangsleistung einstellen. Die Schritte (2) und (3) wiederholen.
	Die maximale Ausgangsleistung einstellen. L3 durch Verschieben am Ferritkern abgleichen.
	Die maximale Ausgangsleistung einstellen. Die Schritte (4) und (5) wiederholen.
	Die maximale Ausgangsleistung einstellen.
	Die maximale Ausgangsleistung einstellen. Die Schritte (6) und (7) wiederholen.
	BEMERKUNGEN
	Die Maximalamplitude einstellen. (Siehe Abb. 19.)
	Die Maximalamplitude einstellen. (Siehe Abb. 20.)
	(*2) Die maximale Ausgangsleistung einstellen.
	(*2) Die maximale Ausgangsleistung einstellen. Die Schritte (3) und (4) wiederholen.

■ KANAL TRENNUNGSABGLEICH

PRÜFUNG	UKW-MESSENDER SOURCE-ANSCHLUSS	GERÄTEAN-SCHLUSS (ELEKTRO-NISCHER ZÄHLER)	EINSTELLUNG	ANGABEN	BEMERKUNGEN
Einstellung des Pilottons	98 MHz, 60 dB	... (+) ... (-)	VR301	19 kHz	Mit dem elektronischen Zähler den Spannungskonstanthalter (VR301) auf 19 kHz (±150 Hz) einstellen.

■ AUDIO-ABGLEICH

EINSTELLUNG	EINGANG	MESSPUNKT	MESSWERT	EINSTELL-PUNKT	BEMERKUNGEN
Azimut	QZZCFM (10 kHz, -20 dB)	EXT SP	Die maximale Ausgangsleistung einstellen.	Azimut-Einstell-schraube	bei Wiedergabe
Wiedergabepegel	QZZCFM (315 Hz, 0 dB)	... (linker Kanal) ... (rechter Kanal)	0,42 ± 0,02 V	VR102 (linker Kanal) VR202 (rechter Kanal)	bei Wiedergabe Bandsortenwähler... Normal
VU-Anzeige	QZZCFM (315 Hz, 0 dB)	Anzeige	"0"	VR402 (linker Kanal) VR401 (rechter Kanal)	bei Wiedergabe Bandsortenwähler... Normal
Oszillationsfrequenz für Vormagnetisierung	—	... (+) ... (-)	66 ± 0,5 kHz	L302	bei Aufnahme: Oszillator → I Bandsortenwähler... Reineisen
Löschstrom	für Reineisenband	... (+) ... (-)	140 ± ³ / ₅ mV	VR304	bei Aufnahme: Bandsortenwähler... Reineisen
Vormagnetisierungssperre	—	... (linker Kanal) ... (rechter Kanal) ... (Masse)	0 ± 1,5 dB	L102 (linker Kanal) L202 (rechter Kanal)	bei Aufnahme: Oszillator → I → II Bandsortenwähler... Reineisen
Vormagnetisierungsstrom	für Reineisenband	... (linker Kanal) ... (rechter Kanal) ... (Masse)	Reineisen 8 ± 0,3 mV CrO ₂ 5,2 ± 0,3 mV Normal 3,8 ± 0,3 mV	Reineisen VR101 (linker Kanal) VR201 (rechter Kanal) Normal VR303	bei Aufnahme: Oszillator → III Bandsortenwähler... Reineisen
Gesamtverstärkung	Außenmikrofon („EXT. MIC“) f = 1 kHz, -52 dB	DIN input ①, ④ pin output ③, ⑤ pin	Aufnahme... 250 mV Wiedergabe... 250 ± 10 mV	VR103 (linker Kanal) VR203 (rechter Kanal)	1. Auf Aufnahme schalten und den Bandsortenwähler auf „Normal“ stellen. 2. Das 1-kHz Signal eines NF-Generators (-52 dB) an die Außenmikrofonbuchse („EXT. MIC“) anlegen. 3. Den Aufnahmepegel (REC LEVEL) so regeln, daß der Pegel (bei Vorderbandkontrolle) an den Meßpunkten testpoint und 250 mV beträgt. 4. Das bespielte Band wiedergeben. Kontrollieren, ob der Wert, der an der DIN-Buchse vom Elektronikvoltmeter angezeigt wird, 250 ± 10 mV beträgt.

BEZEICHNUNGEN IN DER SCHEMATISCHEN DA RSTELLUNG

Bemerkungen:

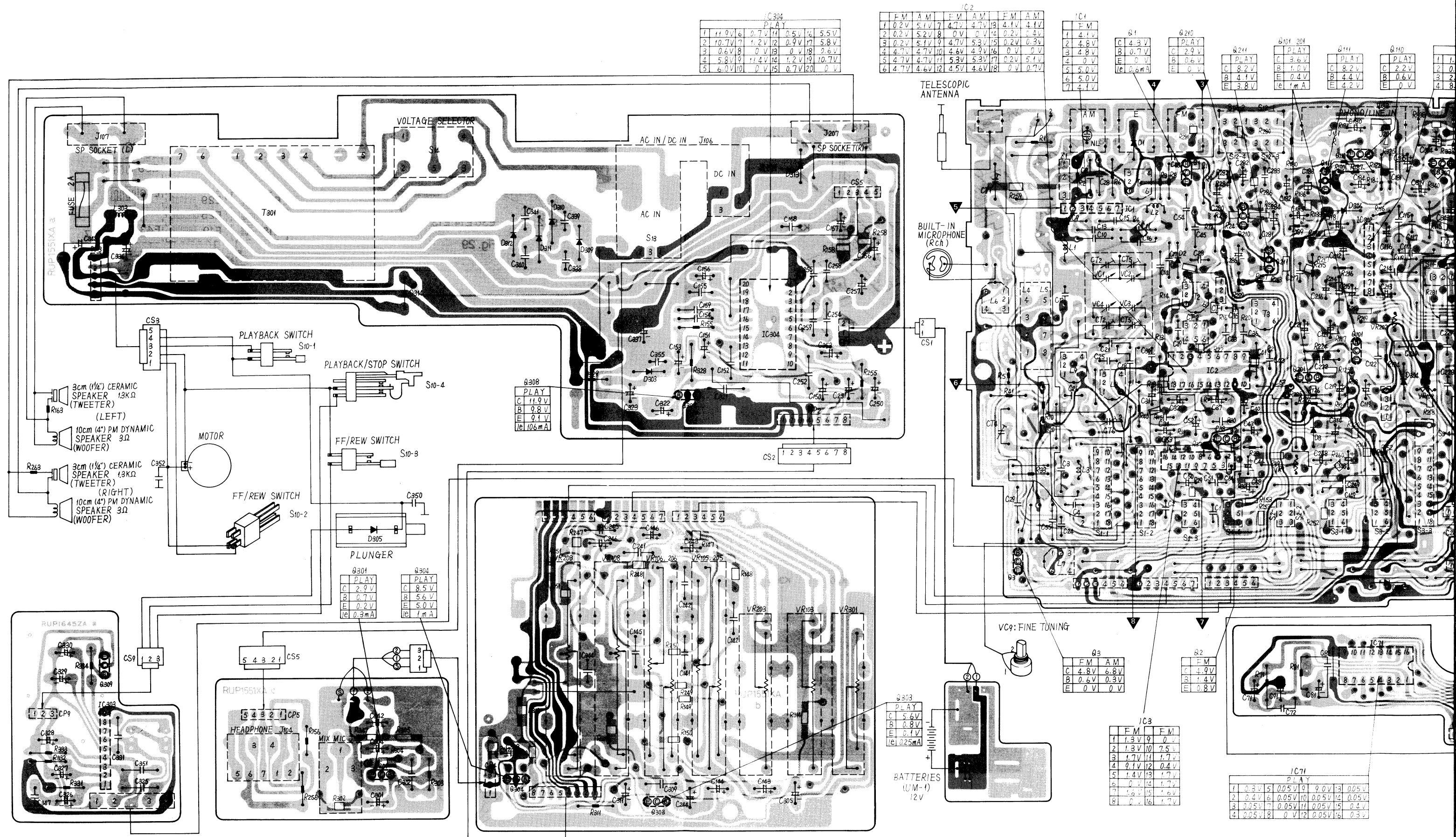
- S2-1~S2-12.....Aufnahme-/Wiedergabeschalter auf „Wiedergabe“.
(1 = Wiedergabeschalter, 3 = Aufnahme).
- S3-1~S3-6 Funktionsschalter auf „TAPE“.
(1 = TAPE, 2 = RADIO, 3 = PHONO, 4 = DIN).
- S4-1~S4-5 Bandsortenwähler auf „NORMAL“.
(1 = NORMAL, 2 = CrO₂, 3 = Reineiser).
- S5-1, S5-2 Betriebsart-/stooronder drakkings knop auf „STEREO“.
(1 = MONO, 2 = STEREO).
- S6-1, S6-2 Schalter für gehörrichtige Lautstärke.
(1 = ON, 2 = OFF).
- S7-1~S7-5 Dolbyschalter auf „IN“.
(1 = IN, 2 = OUT).
- S8 TPS-Programmschalter auf „OFF“.
(1 = ON, 2 = OFF).
- S9 UKW-Stummabstimmungsschalter.
- S10 Fluoreszenzometerschalter.
(1 = ON, 2 = OFF).
- S11 Skalenbeleuchtungsschalter.
(1 = ON, 2 = OFF).
- S12 RADIO/PHONO/DIN schalter auf „OFF“.
- S13 Schnellvorlauf-, Rückspultaste auf „OFF“.
- S14 EIN/AUS-Schalter des Motors auf „OFF“.
- S15 Wiedergabetaste auf „OFF“.
- S16 Bandprogranmsensorschalter.
- S17 Schalter zur Geräuschunterdrückung.
- S18-1, S18-2 ...Leeraufnahmeschalter auf „OFF“.
- S19 Wahlschalter für Gleichstrom-oder Wechselstrombetrieb auf „DC IN“.
- S20 Netzspannungswähler.
- S21 Schalter zum Unterdrücken von Interferenzpfeifen.
(1 = I, 2 = II, 3 = III).
- Die Markierung () bezeichnet einen Meßpunkt, z.B. = Meßpunkt 1.

Bemerkungen:

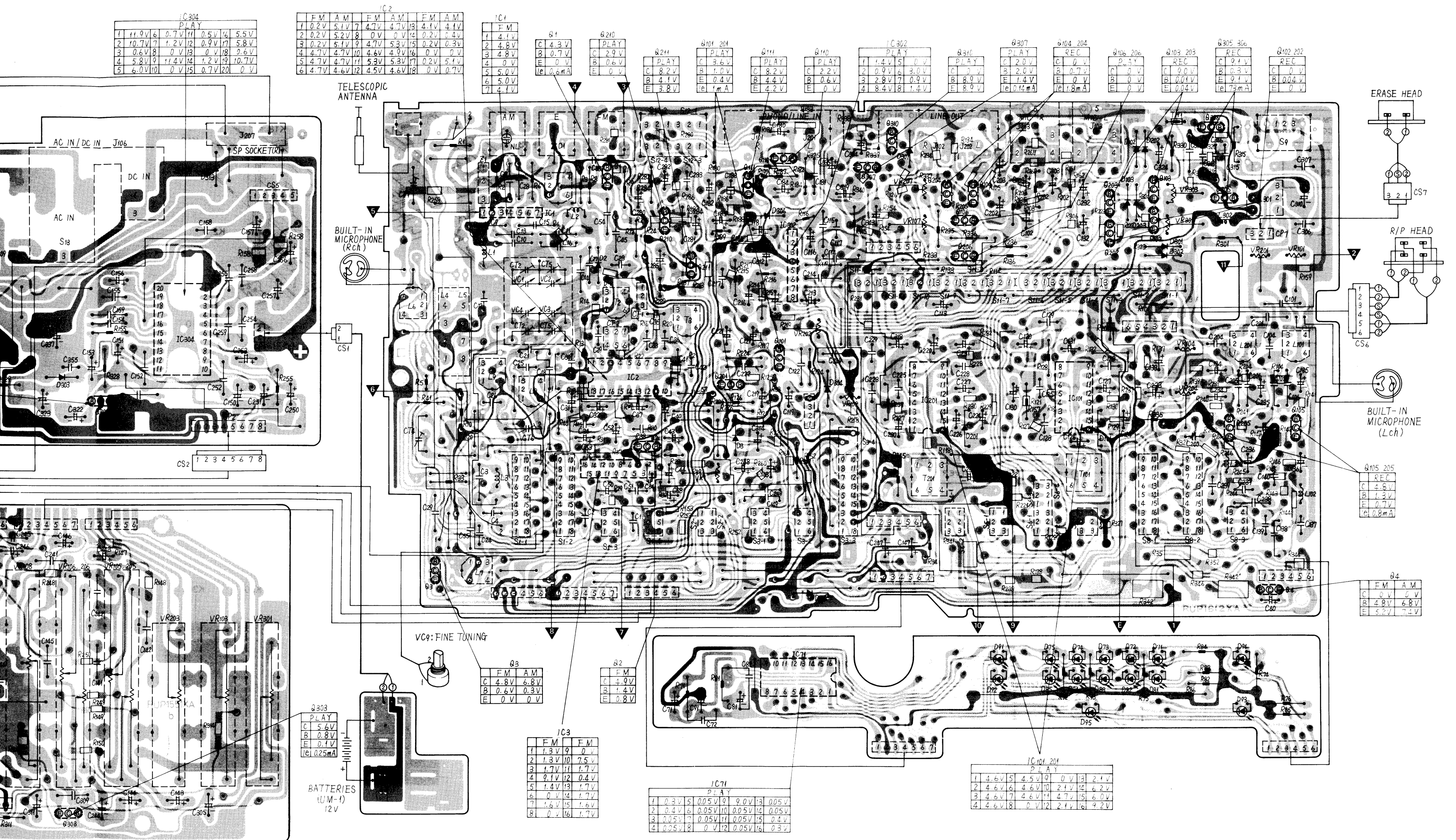
- S1-1~S1-10.....Wellenbereichsschalter auf „UKW“.
(1 = UKW, 2 = LW, 3 = MW, 4 = KW).

- Die Markierung (*) bezeichnet einen gedruckten Widerstand.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
 ...Stellung „UKW“, () ...Stellung „AM“,
< > ...Stellung „Aufnahme“.
- Batteriestrom: ohne Signal 250 mA
bei maximaler Ausgangsleistung
(Radio) 3,3 A
bei maximaler Ausgangsleistung
(Cassette) 3,17 A
- VR101, 201 Spannungsregler zur Einstellung des Vormagnetisierstroms. (Reineiser)
- VR102, 202 Spannungsregler zur Einstellung der Wiedergabeverstärkung.
- VR103, 203 Spannungsregler zur Einstellung der Gesamtverstärkung.
- VR104, 204 Lautstärkeregler.
- VR105, 205 Aussteuerungsregler.
- VR301 Einstellung der spannungsgesteuerten Oszillatorfrequenz.
- VR302 Mischpegelregler.
- VR303 Spannungsregler zur Einstellung des Vormagnetisierstroms (NORMAL).
- VR304 Spannungsregler zur Einstellung des Löschstroms.
- VR305 Balanceregler.
- VR401, 402 Spannungsregler zur Einstellung des Anzeigepegels.
- VR501~505
601~605 ...Regler für graphische Entzerrung.
- Zur Betriebssicherheit.
Die im Schaltplan mit gekennzeichneten Bauteile sind für einen sicheren Betrieb dieses Gerätes besonders wichtig und sollten daher nur durch Originalbauteile ersetzt werden.

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RX-C60F

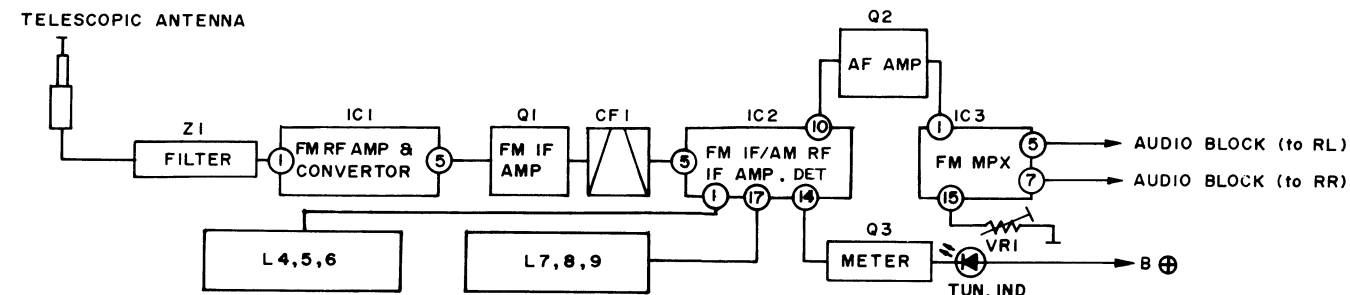


CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RX-C60F

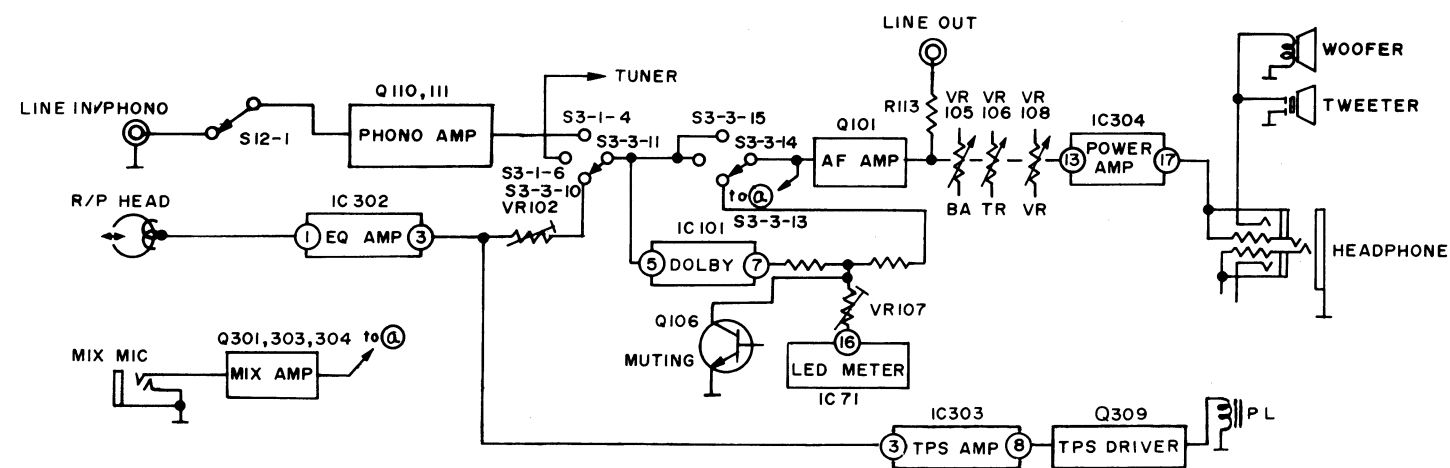


BLOCK DIAGRAM

RADIO CIRCUIT



PLAYBACK CIRCUIT <L ch>



RECORDING CIRCUIT <L ch>

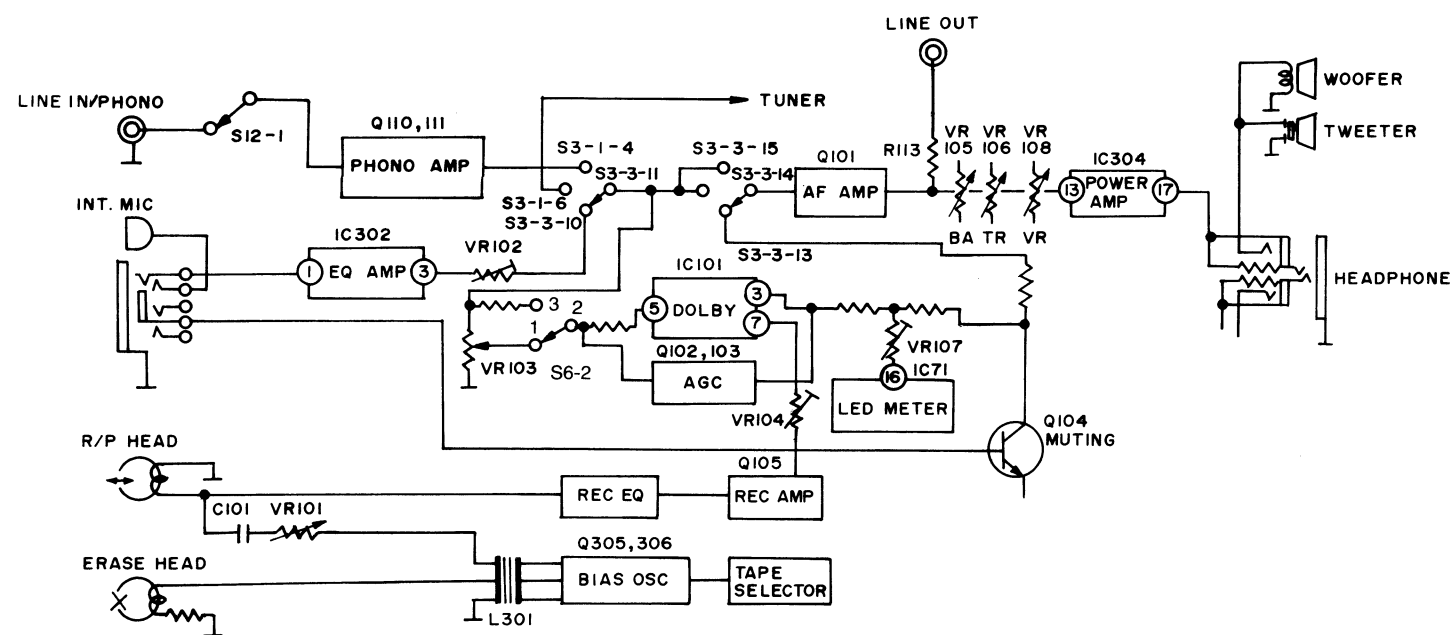


Fig. 23

CABINET PARTS LOCATION

Main Cabinet

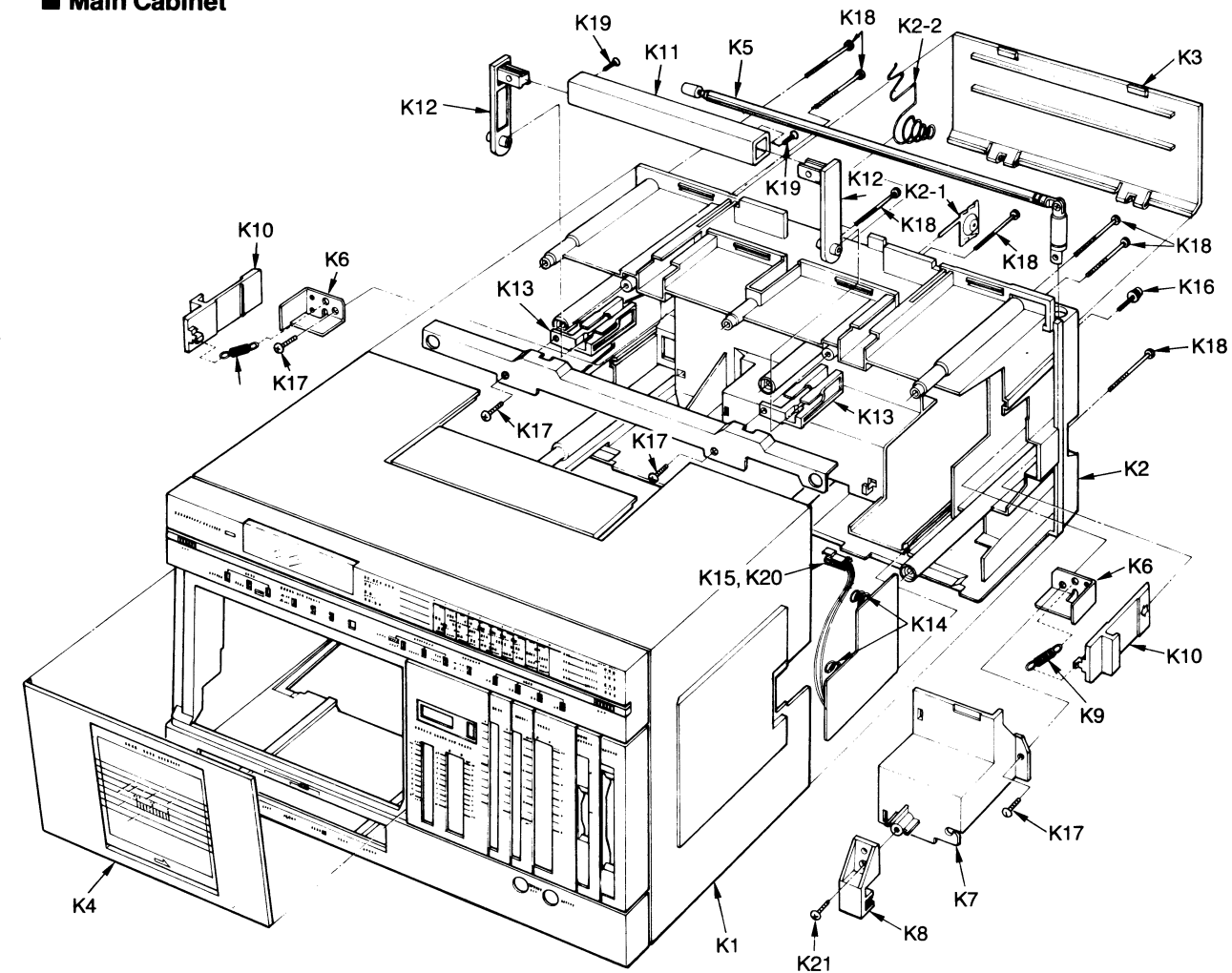


Fig. 24

Speaker Cabinet

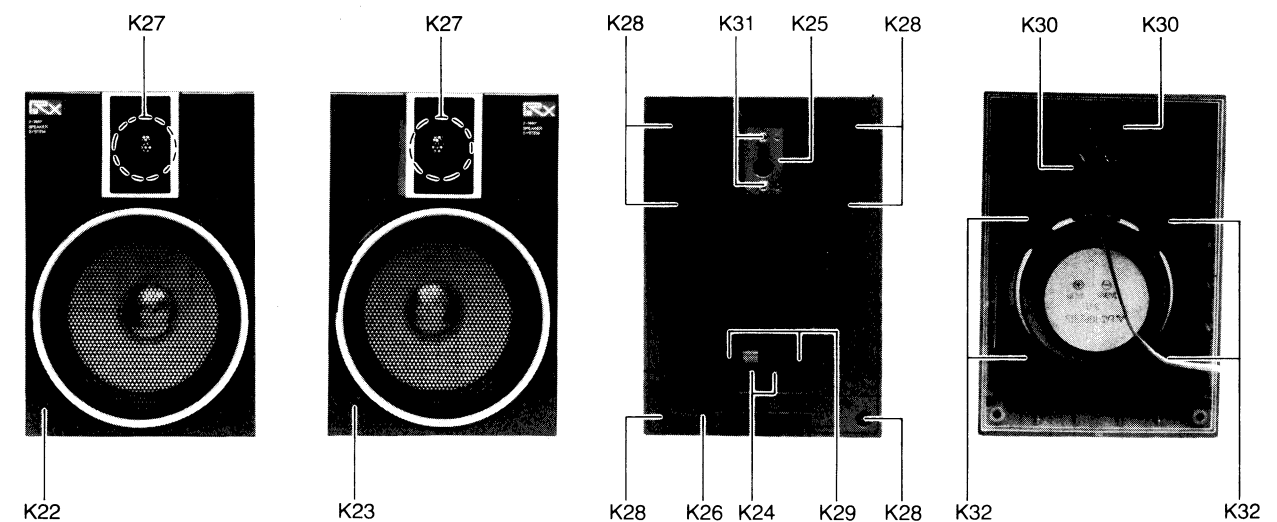


Fig. 25

Fig. 26

Fig. 27

Fig. 28

CABINET PARTS LOCATION

■ Main Cabinet

CK (to RL)
CK (to RR)

WOOFER
TWEETER

HEADPHONE

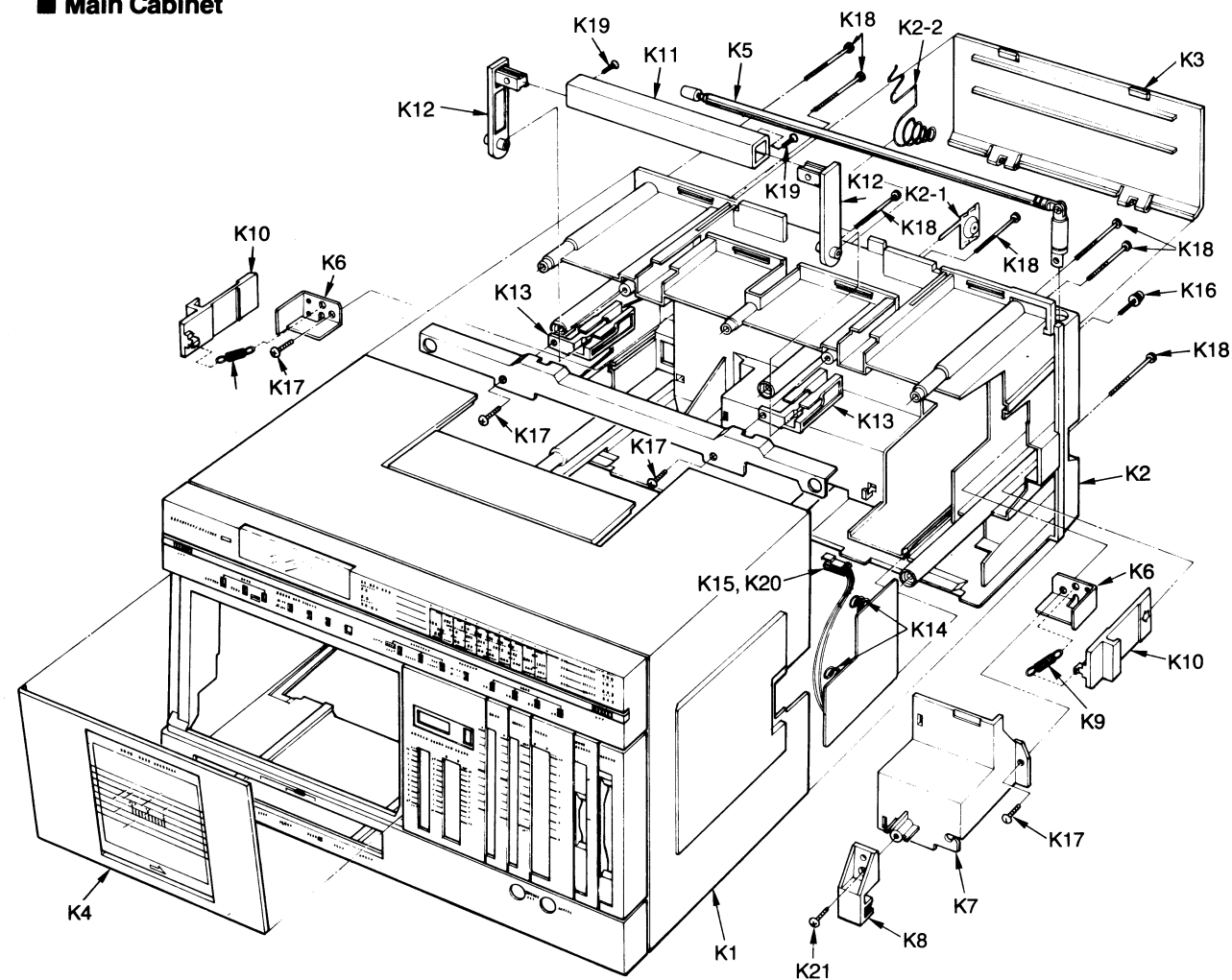


Fig. 24

■ Speaker Cabinet

WOOFER
TWEETER

HEADPHONE

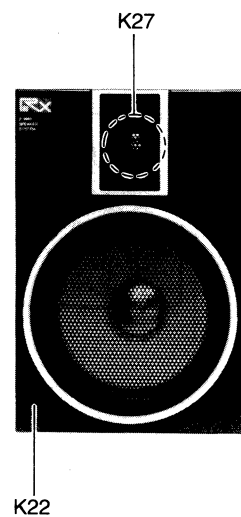


Fig. 25

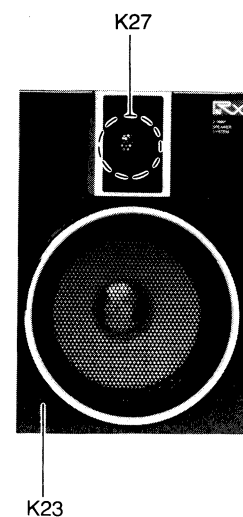


Fig. 26

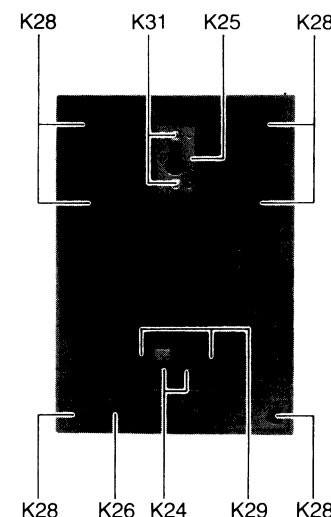


Fig. 27

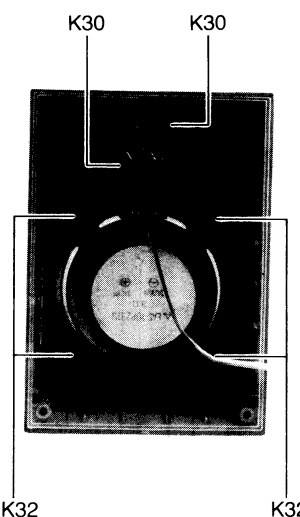


Fig. 28

ELECTRICAL PARTS LOCATION

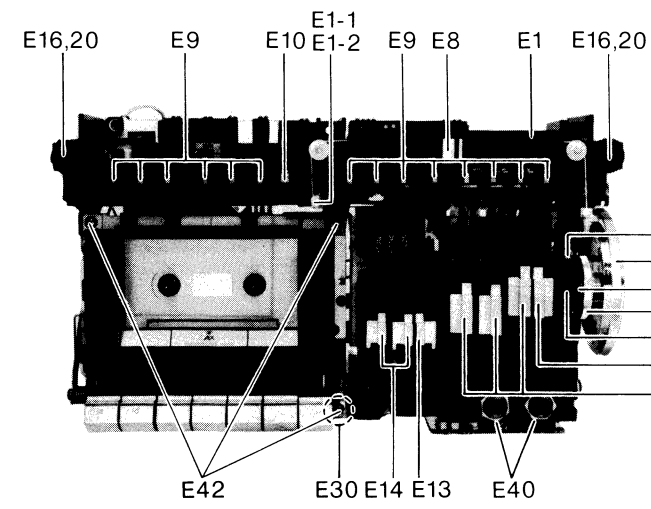


Fig. 29

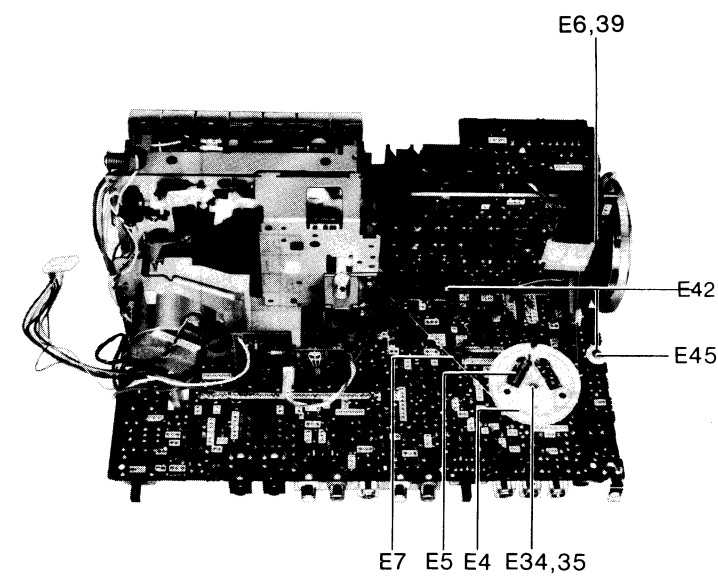


Fig. 30

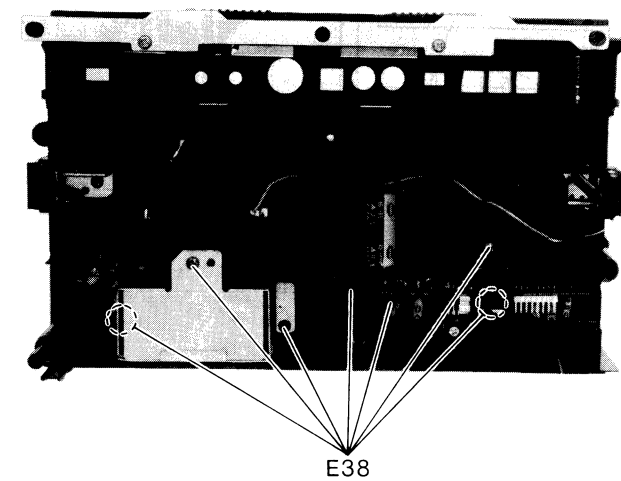


Fig. 31

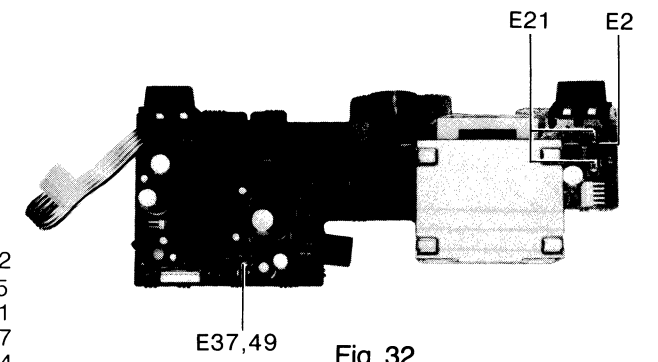


Fig. 32

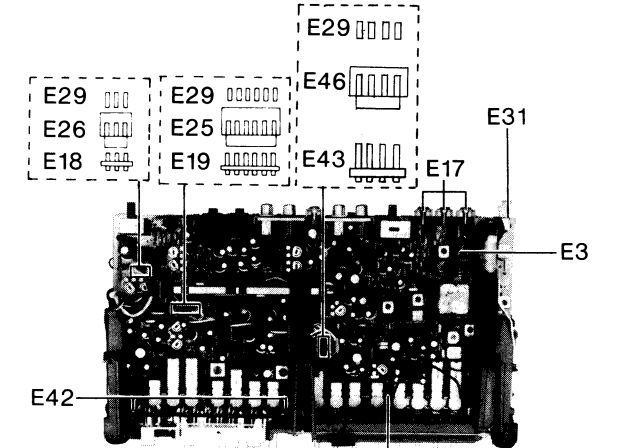


Fig. 33

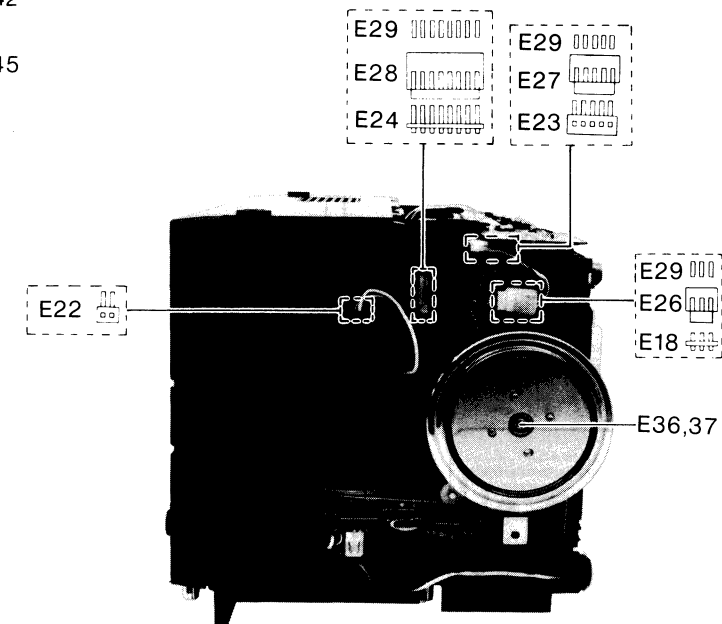


Fig. 34

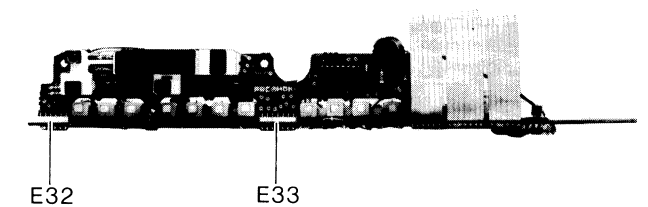


Fig. 35

MECHANISM PARTS LOCATION

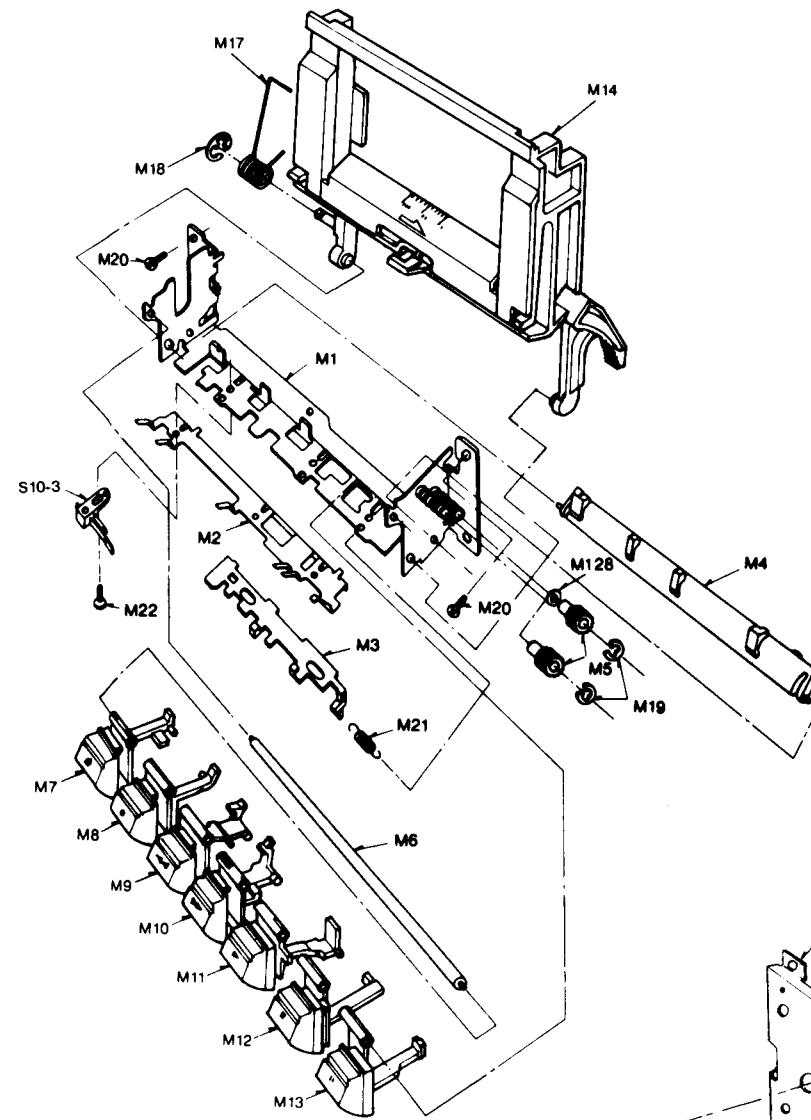


Fig. 36

SPECIFICATIONS

Pressure of pressure roller	360 ± 50 gr
Takeup tension	45 ± 15 gr-cm
Wow and flutter	Less than 0.05% (WRMS)
Tape speed fluctuation	$\pm 3\%$

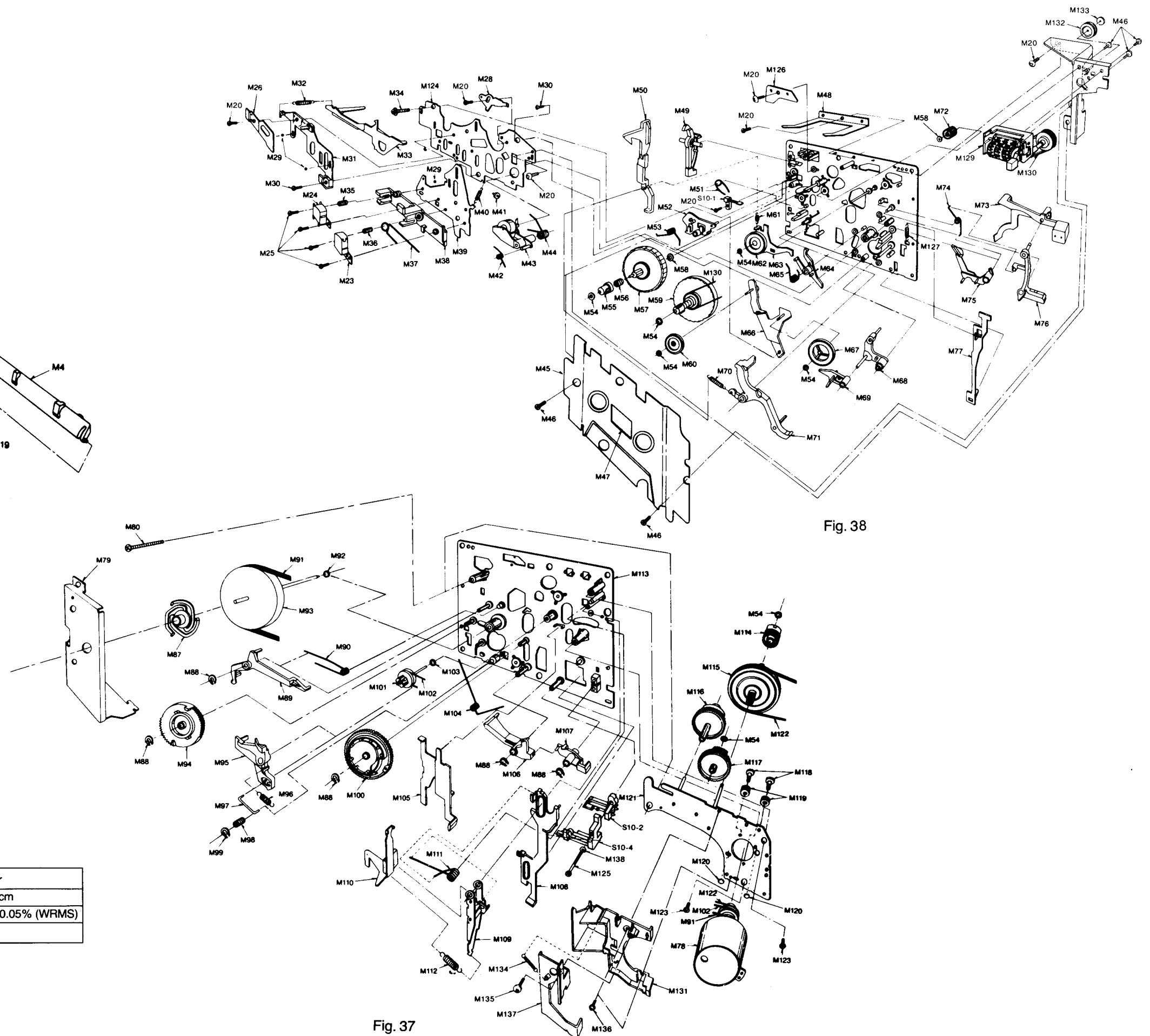


Fig. 38

Fig. 37

■ REPLACEMENT PARTS LIST Model RX-C60F
(RD82112034C3)

NOTES: 1. Important safety notice.
Components identified by  mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
2. The S mark indicates service standard parts and may differ from production parts.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
MECHANICAL PARTS				
M1	QXA1044	Button Bracket Ass'y	1	
M2	QBP1875	Spring, Operation Rod	1	
M3	QMR1823	Lock Rod	1	
M4	QML3649	Lock Arm	1	
M5	QDG1102	Gear, Slow Up	2	
M6	QMN2554	Shaft, Operation Rod	1	
M7	QXL1574	Eject Rod Ass'y (Metallic Silver)	1	
M7	QXL1513	Eject Rod Ass'y (Metallic Brown)	1	
M8	QXL1575	Recording Rod Ass'y (Metallic Silver)	1	
M8	QXL1514	Recording Rod Ass'y (Metallic Brown)	1	
M9	QXL1576	Rewind Rod Ass'y (Metallic Silver)	1	
M9	QXL1515	Rewind Rod Ass'y (Metallic Brown)	1	
M10	QXL1577	Fast Forward Rod Ass'y (Metallic Silver)	1	
M10	QXL1516	Fast Forward Rod Ass'y (Metallic Brown)	1	
M11	QXL1578	Playback Rod Ass'y (Metallic Silver)	1	
M11	QXL1517	Playback Rod Ass'y (Metallic Brown)	1	
M12	QXL1579	Stop Rod Ass'y (Metallic Silver)	1	
M12	QXL1518	Stop Rod Ass'y (Metallic Brown)	1	
M13	QXL1580	Pause Rod Ass'y (Metallic Silver)	1	
M13	QXL1519	Pause Rod Ass'y (Metallic Brown)	1	
M14	RYQXC60N	Cassette Lid Ass'y	1	
M17	QBN1749	Spring, Cassette Slot	1	
M18	XUC5FT	Circlip	1	S
M19	XUC4FT	Circlip	2	S
M20	XTN26+6B	Screw	2	S
M21	QBT1597	Spring	1	
M22	XTN2+6B	Screw	1	S
M23	QWY4137Z	R/P Head	1	
M24	QWY2138Z	Erase Head	1	
M25	XSN2+9	Screw	4	S
M26	QBP1873	Head Base Pressure Plate	1	
M28	QMA3858	Head Adjust Plate	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
M29	QDK1017	Steel Ball	3	
M30	XTN26+10B	Screw	2	S
M31	QMZ1240	Holder, Head Base	1	
M32	QBT1597	Spring	1	
M33	QML3591	Brake Arm	1	
M34	XTN26+12B	Screw	1	S
M35	QBCA0008	Head Spring	1	
M36	QBC1278	Head Spring	1	
M37	QBN1740	Spring, R/P Head	1	
M38	QMZ1241	Head Spacer	1	
M39	QMK1840	Head Base Plate	1	
M40	QBT1892	Spring, Head Base Plate	1	
M41	QMN2550	Guide Roller	1	
M42	QBN1742	Spring, Pinch Roller	1	
M43	QXL1381	Pinch Roller Ass'y	1	
M44	QBN1743	Spring, Pinch Roller	1	
M45	RDH185Z	Cover	1	
M46	XTV26+6JFZ	Screw	4	
M47	RGX1130Z	Refrecting Plate	1	
M48	QBP1874	Cassette Holder Plate	1	
M49	QML3603	Erase Safety Lever	1	
M50	QMR1822	Eject Rod	1	
M51	QBN1747	Spring	1	
M52	QML3588	Spring, FF Lever	1	
M53	QBN1748	FF Spring	1	
M54	QBW2008	Snap Washer	6	
M55	QMB1336	Supply Drive Cam	1	
M56	QBC1372	Back Tension Spring	1	
M57	QDR1139	Supply Reel Table	1	
M58	QBW2012	Washer	2	
M59	QXD1143	Take Up Reel Table Ass'y	1	
M60	QXI0113	FF Idler Ass'y	1	
M61	QBT1893	Take Up Idler Spring	1	
M62	QXI0111	Take Up Idler Ass'y	1	
M63	QXL1382	Idler Lever Ass'y	1	
M64	QML3592	Change Lever	1	
M65	QBN1741	Lever Spring	1	
M66	QXL1383	FF Arm Ass'y	1	
M67	QXI0112	Rewind Idler Ass'y	1	
M68	QXL1354	Sub Lever Ass'y	1	
M69	QML3586	MS Lever	1	
M70	QBT1894	Main Lever Spring	1	
M71	QXL1355	Main Lever Ass'y	1	
M72	QDP1828	FF Pulley	1	
M73	QML3605	Auto Stop Detector Lever	1	
M74	QBN1746	Auto Stop Lever Spring	1	
M75	QML3594	Auto Stop Release Arm	1	
M76	QML3604	Auto Stop Driving Arm	1	
M77	QMR1821	Auto Stop Connecting Rod	1	
M78	QXU0315	Motor Ass'y	1	
M79	QXA1042	Plunger Bracket Ass'y	1	
M80	XTN3+24B	Screw	1	S
M81	QME0157	Plunger	1	
M82	QBC1358	Spring	1	
M83	XSN3+6S	Screw	2	S
M84	XWC3B	Washer	2	S

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
M85	XUC3FT	Circlip	1	
M86	QML3616	Release Lever	1	
M87	QMZ1239	Flywheel Thrust Retainer	1	
M88	XUB3FT	Circlip	5	S
M89	QML3581	Sub Control Lever	1	
M90	QBN1744	Sub Gear Spring	1	
M91	QDB0281	Capstan Belt	1	
M92	QBW2049	Washer	1	
M93	QXF0164	Flywheel Ass'y	1	
M94	QDG1202	Sub Gear	1	
M95	QML3582	Pause Lock Lever	1	
M96	QBT1896	Lever Spring	1	
M97	QBS1128	Lock Pin	1	
M98	QBC1357	Lock Pin Spring	1	
M99	XUB4FT	Circlip	1	S
M100	QDG1201	Main Gear	1	
M101	QXP0607	FF Belt Pulley Ass'y	1	
M102	QDB0274	Rewind Belt	1	
M103	QBW2012	Washer	1	
M104	QBN1745	Main Gear Spring	1	
M105	QMR1824	Control Rod	1	
M106	QML3583	Main Control Lever	1	
M107	QML3584	Record Operation Lever	1	
M108	QMR1820	Record Rod	1	
M109	QXL1361	R/P Selector Arm Ass'y	1	
M110	QML3580	R/P Selector Lever	1	
M111	QBN1739	Selector Lever Spring	1	
M112	QBT1895	R/P Pressure Spring	1	
M113	QXK2276	Lower Base Plate	1	
M114	QXP0638	Connection Pulley Ass'y	1	
M115	QXG1047	Take Up Gear Ass'y	1	
M116	QDG1200	Cam Gear	1	
M117	QDG1199	Auto Stop Gear	1	
M118	QHJ1303	Screw	2	
M119	QBG1373	Cushion	2	
M120	QBG1683	Cushion	2	
M121	QXK2286	Sub Chassis Ass'y	1	
M122	QDB0273	Fast Forward Belt	1	
M123	XTN3+10B	Screw	2	S
M124	QMK1838	Upper Base Plate	1	
M125	XTN2+20F	Screw	1	
M126	QMF2118	Fast Forward Bracket	1	
M127	QBT1682	Auto Stop Connection Rod Spring	1	
M128	QBW2020	Washer	1	
M129	RSE92Z	Counter	1	
M130	QDB0143-2	Belt	1	
M131	RUE48Z	Holder	1	
M132	RDR46Z	Roller	1	
M133	RNW150-2	Washer	1	
M134	RDS3120A	Spring	1	
M135	XTWR3+12Q	Screw	1	
M136	XTW3+6L	Screw	2	
M137	RUB265Z	R/P Lever	1	
M138	XWA2B	Washer	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES				
IC1	AN7213	IC	1	
IC2	AN7220A	IC	1	
IC3	RVIBA1356	IC	1	
IC71	RVITA7666P	IC	1	
IC101,201	RVINE649N	IC	2	
IC302	RVIBA328	IC	1	
IC303	RVIBA338	IC	1	
IC304	RVILA4505	IC	1	
Q1	2SC1359B	Transistor (Si)	1	S
Q2,101,105,111, 201,205,211, 301,303,304	2SC1684HR	Transistor (Si)	10	
Q3,103,110,203,210	2SC1328T	Transistor (Si)	5	S
Q102,202	2SC828RA5	Transistor (Si)	2	
Q104,106,204,206,307	2SC1684S	Transistor (Si)	5	
Q305,306	2SC1317NCR	Transistor (Si)	2	
Q308	2SC1847R	Transistor (Si)	1	
Q309	2SC2001	Transistor (Si)	1	
Q4,310	2SA722-S	Transistor (Ge)	2	S
D1,101~103,201~ 204,306~308,314	MA161	Diode (Si)	11	S
D2	RVSDSD113	Diode (Si)	1	S
D3	MA1051	Diode (Si)	1	
D71~75,81~85,91~95	LN15191P	LED	1	
D301,302	MA27WA	Diode (Si)	2	
D303	MA1100	Diode (Si)	1	
D305,309~313	SM112	Diode (Si)	5	S
THERMISTOR				
TH1	RRT202	Thermistor	1	
COILS AND TRANSFORMERS				
L1	RLD4Y54	Antenna Coil, FM	1	
L2	RLD4Y43	Oscillator Coil, FM	1	
L4	RLF5D153	Antenna Coil, MW, SW1	1	
L6	RLA3M62	Antenna Coil, SW2	1	
L7	RLO2M14	Oscillator Coil, MW	1	
L8	RLO3M18	Oscillator Coil, SW1	1	
L9	RLO3M75	Oscillator Coil, SW2	1	
L101,201	QLQM1531	Bias Trap Coil	2	
L102,202	RLQZ8221	Filter	2	
L301	RLO9C23	Bias Oscillator Coil	1	
L303	RLQZB4R7K	Choke Coil	1	
T1,3	RLI4M101	IFT, FM 1st, 2nd	2	S
T2	QLI2M102	IFT, AM 1st	1	
T101,201	RLE5029	Filter (Dolby NR)	2	
T301	RLT5Z4G1A	Power Transformer	1	

RX-C60F
RX-C60F

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
VARIABLE RESISTORS				
VR1	EVNM4AA00B14	Variable Resistor, 10k Ω (B)	1	S
VR101,201	EVN33AA00B55	Variable Resistor, 500k Ω (B)	1	
VR102,202	EVNM4AA00B24	Variable Resistor, 20k Ω (B)	2	S
VR103,203	EVAV59C20B24	Variable Resistor, 20k Ω (B)	2	
VR104,107	EVNM4AA00B54	Variable Resistor, 50k Ω (B)	4	S
VR108,208	EVAU11C20B54	Variable Resistor, 50k Ω (B)	2	
VR105,106	EVBU07C20A54	Variable Resistor, 50k Ω (A)	2	
VR301	EVAV58C20A54	Variable Resistor, 50k Ω (A)	1	
VR302,303	EVNM4AA00B53	Variable Resistor, 5k Ω (B)	2	S
VARIABLE CAPACITORS				
VC1~4	RCV4RC2VK	Tuning Capacitor, w/Trimmer Capacitor (CT2,5,7,8)	1	
CT1,4,6	RCV1GT10A	Trimmer Capacitor	3	
VC5	RCVMFT8NC14	Fine Tuning	1	
CERAMIC FILTERS				
CF1	RVF107MTWAZ	Ceramic Filter, 10.7MHz	1	
CF2	RVFSFZ455B	Ceramic Filter, 455kHz	1	
COMPONENT COMBINATION				
Z1	RXABPMB3	Component Combination	1	
SPEAKERS				
	EAS10P231S	Speaker, 10cm (4"), 3 Ω	2	
	EAS3FP03A	Speaker, 3cm (1-1/4"), 200 Ω	2	
SWITCHES				
S1-1~1-4,2-1,2-2,3-1~3-4	RSHX047X	Switch, Band/Loudness/Function	1	
S4-1,4-2,5-1,5-2,6-1~6-4,7-1,7-2	RSHX045Z	Switch, Rec Mute/Mode, etc.	1	
S9	RSS2A06Z	Switch, Beatproof	1	
S10-1	QSB0275	Switch, Playback	1	
S10-2,10-3	QSB0254	Switch, FF/REW	2	
S10-4	RSH2A10Z	Switch, Playback/Stop	1	
S11-1~11-12	RSH2L06Z	Switch, Record/Playback	1	
S12-1~12-4	RSS42A	Switch, LINE IN/PHONO	1	
S14	RSR4A07Z	Switch, Voltage Selector	1	⚠
JACKS				
J101,201,102,202	RJF1086Z	Jack, PHONO, LINE IN, LINE OUT	1	
J103,203	RJJ1D7Z	Jack, EXT MIC (L.R)	2	
J104	RJJ1E2Z	Jack, HEAD PHONE	1	
J105	RJJ1E7Z	Jack, MIXING MIC	1	
J106	RJJ1F1Z	Jack, AC/DC IN	1	⚠
J107,207	RJF1088Z	Jack, Speaker Socket	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
VARIABLE RESISTORS				
VR1	EVNM4AA00B14	Variable Resistor, 10k Ω (B)	1	S
VR101,201	EVN33AA00B55	Variable Resistor, 500k Ω (B)	1	
VR102,202	EVNM4AA00B24	Variable Resistor, 20k Ω (B)	2	S
VR103,203	EVAV59C20B24	Variable Resistor, 20k Ω (B)	2	
VR104,107	EVNM4AA00B54	Variable Resistor, 50k Ω (B)	4	S
VR108,208	EVAU11C20B54	Variable Resistor, 50k Ω (B)	2	
VR105,106	EVBU07C20A54	Variable Resistor, 50k Ω (A)	2	
VR301	EVAV58C20A54	Variable Resistor, 50k Ω (A)	1	
VR302,303	EVNM4AA00B53	Variable Resistor, 5k Ω (B)	2	S
VARIABLE CAPACITORS				
VC1~4	RCV4RC2VK	Tuning Capacitor, w/Trimmer Capacitor (CT2,5,7,8)	1	
CT1,4,6	RCV1GT10A	Trimmer Capacitor	3	
VC5	RCVMFT8NC14	Fine Tuning	1	
CERAMIC FILTERS				
CF1	RVF107MTWAZ	Ceramic Filter, 10.7MHz	1	
CF2	RVFSFZ455B	Ceramic Filter, 455kHz	1	
COMPONENT COMBINATION				
Z1	RXABPMB3	Component Combination	1	
SPEAKERS				
	EAS10P231S	Speaker, 10cm (4"), 3 Ω	2	
	EAS3FP03A	Speaker, 3cm (1-1/4"), 200 Ω	2	
SWITCHES				
S1-1~1-4,2-1,2-2,3-1~3-4	RSHX047Z	Switch, Band/Loudness/Function	1	
S4-1,4-2,5-1,5-2,6-1~6-4,7-1,7-2	RSHX045Z	Switch, Rec Mute/Mode, etc.	1	
S9	RSS2A06Z	Switch, Beatproof	1	
S10-1	QSB0275	Switch, Playback, FF/REW	1	
S10-2,10-3	QSB0254	Switch, FF/REW	2	
S10-4	RSH2A10Z	Switch, Playback/Stop	1	
S11-1~11-12	RSH2L06Z	Switch, Record/Playback	1	
S12-1~12-4	RSS42A	Switch, LINE IN/PHONO	1	
S14	RSR4A07Z	Switch, Voltage Selector	1	⚠
JACKS				
J101,201	RJF1086Z	Jack, Phone Line In, Line Out	1	
J103,203	RJJ1D7Z	Jack, EXT MIC (L.R)	2	
J104	RJJ1E2Z	Jack, HEAD PHONE	1	
J105	RJJ1E7Z	Jack, MIXING MIC	1	
J106	RJJ1F1Z	Jack, AC/DC IN	1	⚠
J107,207	RJF1088Z	Jack, Speaker Socket	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
		RESISTORS (Value is in OHMS)		
R315	ERD25FJ2R2	2.2 1/4W Carbon	1 S	
R301	ERD25FJ1R0	1 " "	1 S	
R101,201	ERD25FJ100	10 " "	2 S	
R2,8,10,24,38, 40,155,255, 316,335,336	ERD25FJ101	100 " "	11 S	
R72,73,82, 83,128,345	ERD25FJ102	1 k " "	6 S	
R330	ERD25TJ106	10 M " "	1 S	
R133,233	ERD25FJ152	1.5 k " "	2 S	
R1	ERD25TJ154	150 k " "	1 S	
R182,187, 282,287,303	ERD25TJ155	1.5 M " "	5 S	
R5,12,156, 256,334	ERD25FJ221	220 " "	5 S	
R115,215	ERD25FJ330	33 " "	2 S	
R3,126,163,226, 263,328,329	ERD25FJ331	330 " "	7 S	
R102,157, 202,257	ERD25FJ332	3.3 k " "	4 S	
R180	ERD25FJ333	33 k " "	1 S	
R6,13,317	ERD25FJ470	47 " "	4 S	
R33,71,81	ERD25FJ473	47 k " "	3 S	
R9,23	ERD25TJ474	470 k " "	2 S	
R135,235	ERD25TJ683	68 k " "	2 S	
R124,224	ERD25TJ684	680 k " "	2 S	
R136,236	ERD25FJ822	8.2 k " "	2 S	
R189,289	ERD25FJ153	15 k " "	2 S	
R116,216	ERD25TJ823	82 k " "	2 S	
R34	ERG1ANJ330	33 1W Metal Oxide	1 S	
R311	ERD25TJ335	3.3 M 1/4W Carbon	1 S	
R74~76,84~86	ERD25FJ471	470 " "	6 S	
R41,331	ERD25TJ224	220 k " "	2 S	
R333	ERD25FJ272	2.7 k " "	1 S	
R332	ERD25TJ104	100 k " "	1 S	
		CAPACITORS (Value is in MICRO FARADS except P.P=PICO FARADS)		
C1	ECCD1H020C	2 P 50V Ceramic	1	
C4	ECCD1H220KC	22 P " "	1	
C39	ECCD1H560KC	56 P " "	1	
C21	ECCD1H070DC	7 P " "	1	
C18	ECCD1H120KC	12 P " "	1	
C2	ECCD1H050CC	5 P " "	1	
C33	ECCD1H221K	220 P " "	1	
C72,82	ECCD1H331K	330 P " "	2	
C42,62	ECKD1H102KB	0.001 " "	2	
C350,352	ECKD1H102MD	0.001 " "	2	
C338~341	ECKD1H103ZF	0.01 " "	4	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C307	ECQG1H683MZ	0.068 50V Polyester	1	
C140,158, 240,258,347	ECQG05224JZ	0.22 " "	5	
C25	RCQP2A152JZ	1500 P 100V " "	1	
C104,204	RCQP2A331JZ	330 P " "	2	
C24	ECQP2A361JZ	360 P " "	1	
C51	RCQP2A471JZ	470 P " "	1	
C26,306	RCQP2A472JZ	4700 P " "	2	
C137,237	ECFT1E153KD	0.015 25V Semi-Conductor	2	
C139,239	ECFT1E223KD	0.022 " "	2	
C125,225	ECFT1E273KD	0.027 " "	2	
C117,217	ECFT1E333KD	0.033 " "	2	
C12,30	ECFT1E333MD	0.033 " "	2	
C123,223	ECFT1E472KA	0.0047 " "	2	
C23,35,36, 128,228,349	ECFT1E473MD	0.047 " "	6	
C129,229	ECFT1E562KA	0.0056 " "	2	
C183,283	ECFT1E683MD	0.068 " "	2	
C34,355	ECFT1E104MD	0.1 " "	2	
C38,64	ECFT1E333MD	0.033 " "	2	
C60	ECEA0JK220	22 6.3V Electrolytic	1	
C31,91,116,151, 153,156,216, 253,256,308	ECEA1AS101	100 10V " "	10 S	
C40,312,333,334	ECEA1AS221	220 " "	4 S	
C335	ECEA1CS330	33 16V " "	1 S	
C303,342	ECEA1AS470	47 10V " "	1 S	
C314,318,320	ECEA1AS471	470 " "	3 S	
C44,58,113,127,130, 136,213,227,230, 236,311,324,329	ECEA1HS100	10 50V " "	13 S	
C251,310,322	ECEA1ES101	100 25V " "	3 S	
C71,81,118,121,134, 135,185,218,221, 234,235,285,319	ECEA50Z3R3	3.3 50V " "	13 S	
C32,43,131,231,330	ECEA25Z4R7	4.7 25V " "	5 S	
C52,102,143, 148,182,202, 243,248,282	ECEA1HSR22	0.22 50V " "	9	
C120,124, 220,224,326	ECEA1HSR33	0.33 " "	5	
C53,327	ECEA50ZR47	0.47 " "	2 S	
C157,257	ECEA1AS102	1000 10V " "	2 S	
C323	ECEA1CS221	220 16V " "	1 S	
C348	ECEA1EF101	100 25V " "	1	

Ref. No.	Part No.	Part Name & Description			Per Set	Remarks	Ref. No.	Part No.	Part Name & Description			Per Set	Remarks
C37,103,126,132,144,146,147,184,203,226,232,244,246,247,284,304,305	ECEA1HS0R1	0.1	50V	Electrolytic	17		K3	RYNXC60LSXG1	Battery Cover Ass'y (Metallic Brown)			1	
C337	ECEA1VS102	1000	35V	"	1	S	K3	RYNXC60M7	Battery Cover Ass'y (Metallic Silver)			1	
C336	ECEA1ES471	470	25V	"	1	S	K4	RYPXC60FX5	Cassette Panel Ass'y (Metallic Brown)			1	
C119,133,150,180,219,233,250,280,301,328,343	ECEA50Z1	1	50V	"	11	S	K4	RYPXC60FX4	Cassette Panel Ass'y (Metallic Silver)			1	
C50	ECEA50Z2R2	2.2	"	"	1	S	K5	XEAQCR228FAK	Telescopic Antenna			1	
C346	ECEA1ES222	2200	25V	"	1	S	K6	RUL675Z	Bracket, Speaker Mounts			2	
C28,29,45,57,155,255,321	ECBS1C103NY	0.01	16V	Ceramic	7		K7	RUV660Z4	Battery Cover (Metallic Brown)			1	
C105,145,205,245	ECBS1E152MX	0.0015	25V	"	4		K7	RUV660Z	Battery Cover (Metallic Silver)			1	
C106,152,206,252,316,317	ECBS1E222NX	0.0022	"	"	6		K8	RME308Z4	Holder, Printed Circuit Board Fix. (Metallic Brown)			1	
C122,138,222,238	ECBS1E472NX	0.0047	"	"	4		K8	RME308Z	Holder, Printed Circuit Board Fix. (Metallic Silver)			1	
C315	ECBS1E682MX	0.0068	"	"	1		K9	RDS5133Z	Spring, Speaker Box			2	
C3,14,17	ECBS1H100JC	10 P	50V	"	3		K10	RBC405Z4	Button, Speaker Box (Metallic Brown)			2	
C63	ECBC1H330JC	33 P	"	"	1		K10	RBC405Z	Button, Speaker Box (Metallic Silver)			2	
C101,201	ECBS1H101JL	100 P	"	"	2		K11	RKX254Z4	Handle (Metallic Brown)			1	
C9~11,54,181,281	ECBS1H102KB	0.001	"	"	6		K11	RKX254Z	Handle (Metallic Silver)			1	
C13,16	ECBS1H150JC	15 P	"	"	2		K12	RKX255Z	Arm, Handle			2	
C114,214	ECBS1H331KB	330 P	"	"	2		K13	RKT135Z4	Stopper, Arm (Metallic Brown)			2	
C15,20	ECBS1H4R7KC	4.7 P	"	"	2		K13	RKT135Z	Stopper, Arm (Metallic Silver)			2	
C115,215	ECBS1H471KB	470 P	"	"	2		K14	RJC511Z	Terminal, Battery - Side			2	
C41	ECBS1H681KB	680 P	"	"	1		K15	RJS2L1Z	Socket, 2 Pin			1	
C344,351	ECBS1E332MX	0.0033	25V	"	2		K16	XYN3+F12FZ	Screw, Telescopic Antenna M'tg (Metallic Brown)			1	
C141,241	ECBS1E682NX	0.0068	"	"	2		K16	XYN3+F12FN	Screw, Telescopic Antenna M'tg (Metallic Silver)			1	
C154,254	ECBS1H220JC	22 P	50V	"	2		K17	XTV3+12G	Screw			4	
C159,259	ECBS1H6R8KC	6.8 P	"	"	2		K18	XTV3+45G	Screw			9	
C325	ECBS1C103MY	0.01	16V	"	1		K19	XTC3+8CFN	Screw (Metallic Silver)			2	
C55,313	ECBT1E103MM	0.01	25V	"	2		K19	XTC3+8CFZ	Screw (Metallic Brown)			2	
C149,249	ECBT1E153MX	0.015	"	"	2		K20	RJT462Z	Terminal			2	
C142,242	302,309,331						K21	XTV3+12GR	Red Screw			7	
	ECBT1C223NY	0.022	16V	"	5				SPEAKER BOX				
	CABINET PARTS						K22	RYMXC602LG93	Speaker Box Ass'y Left (Metallic Brown)			1	
	MAIN CABINET						K22	RYMXC602M8	Speaker Box Ass'y Left (Metallic Silver)			1	
K1	RYMXC601FX1	Front Cabinet Ass'y (Metallic Brown)			1		K23	RYMXC603LG93	Speaker Box Ass'y Right (Metallic Brown)			1	
K1	RYMXC601FX8	Front Cabinet Ass'y (Metallic Silver)			1		K23	RYMXC603M8	Speaker Box Ass'y Right (Metallic Silver)			1	
K2	RYFXC60FX1	Rear Cabinet Ass'y (Metallic Brown)			1		K24	RJF1090Z	Terminal Speaker			2	
K2	RYFXC60FX7	Rear Cabinet Ass'y (Metallic Silver)			1		K25	RUL661Z	Speaker Wall Mounts			2	
K2-1	RJC111Z	Terminal, Battery + Side			1		K26	RKF601Z92	Cover, Speaker Cabinet (Metallic Brown)			2	
K2-2	RJC950Z	Terminal, Battery, +, - Side			1		K26	RKF601Z7	Cover, Speaker Cabinet (Metallic Silver)			2	

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Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
K27	RHG1059Z	Rubber, Speaker	2		E21	QTF1054	Holder, Fuse	2	△
K28	XTN35+50GFZ	Screw, Speaker Box M'tg (Metallic Brown)	12		E22	RJP2G2Z	Plug, 2 Pin	1	
K28	XTN35+50GFY	Screw, Speaker Box M'tg (Metallic Silver)	12		E23	RJP5G2Z	Plug, 5 Pin	2	
K29	XTV3+12GFZ	Screw	4		E24	RJP8G1Z	Plug, 8 Pin	1	
K30	XTV3+10G	Screw	4		E25	RJS6L1Z	Socket, 6 Pin	1	
K31	XTV3+12GFY	Screw	4		E26	RJS3L1Z	Socket, 3 Pin	3	
K32	XTV3+8G	Screw	8		E27	RJS5L1Z	Socket, 5 Pin	2	
ELECTRICAL PARTS					E28	RJS8L1Z	Socket, 8 Pin	1	
E1	RZAXC60LSXG1	Dial Chassis Ass'y (Metallic Brown)	1		E29	RJT462Z	Terminal, Socket	35	
E1	RZAXC60LSXG	Dial Chassis Ass'y (Metallic Silver)	1		E30	RJT784Z	Terminal, Earth	1	
E1-1	RDR21-1	Pulley	1		E31	RJT768Z	Terminal, Antenna	1	
E1-2	RDY43Z	Shaft, Pulley	1		E32	RJT785Z	Terminal, 6 Pin	1	
E2	XBA1C20NS5	Fuse	1	△	E33	RJT667Z	Terminal, 7 Pin	1	
E3	XANR2T20	Neon Lamp, Arrester	1		E34	XSN26+6	Screw, Drum M'tg	1	S
E4	RDD483Z	Drum	1		E35	XWA26B	Washer, Drum M'tg	1	S
E5	RDS4090A	Spring, Dial	1		E36	XSN3+6S	Screw, Tuning Knob M'tg	1	S
E6	RDT3231Z	Shaft, Tuning	1		E37	XWA3B	Washer, Tuning Knob M'tg	2	S
E7	RDZ05Z	Cord, Dial (100cm)	1		E38	XTV3+12GR	Red Screw, Circuit Board M'tg	7	
E8	RDP848Z	Pointer, Dial	1		E39	XNS11	Nut, Tuning Shaft M'tg	1	S
E9	RBC406Y	Button, Tape etc. (Metallic Brown)	14		E40	XNS12D	Nut, Headphone Jack M'tg	2	
E9	RBC406Z	Button, Tape etc. (Metallic Silver)	14		E41	XNS8D	Nut, Fine Tuning M'tg	1	
E10	RBC407Y	Button, Rec Mute (Metallic Brown)	1		E42	XTV3+10G	Screw, Circuit Board M'tg	9	
E10	RBC407Z	Button, Rec Mute (Metallic Silver)	1		E43	RJP4G1Z	Plug, 4 Pin	1	
E11	RBD161Y	Knob, Volume (Right) (Metallic Brown)	1		E44	RUL685Z	Bracket, Fine Tuning	1	
E11	RBD161Z	Knob, Volume (Right) (Metallic Silver)	1		E45	RNW325	Washer	1	
E12	RBD162Y	Knob, Volume (Left), Bass, Treble (Metallic Brown)	3		E46	RJS4L1Z	Socket, 4 Pin	1	
E12	RBD162Z	Knob, Volume (Left), Bass, Treble (Metallic Silver)	3		E47	RBT159Y	Knob, Fine Tuning (Metallic Brown)	1	
E13	RBD163Y	Knob, Rec Level (Right) (Metallic Brown)	1		E47	RBT159Z	Knob, Fine Tuning (Metallic Silver)	1	
E13	RBD163Z	Knob, Rec Level (Right) (Metallic Silver)	1		E48	XSN2+W4	Screw	1	
E14	RBD164Y	Knob, Rec Level (Left), Mixing Level (Metallic Brown)	2		E49	XSN3+8S	Screw	1	S
E14	RBD164Z	Knob, Rec Level (Left), Mixing Level (Metallic Silver)	2		ACCESSORIES				
E15	RBT9001X	Knob, Tuning (Metallic Brown)	1			RJA21Z	Power Cord, AC	1	△
E15	RBT9001Y	Knob, Tuning (Metallic Silver)	1			RJP2F1Z	Cord, Speaker (Short)	2	
E16	RJM142Z	Built-in Microphone	2			RJE123Z	Cord, Speaker (Long)	2	
E17	RJF1046Z	Terminal, Ext Ant.	3			RJN34Z	Cassette Tape	1	
E18	RJP3G1Z	Plug, 3 Pin	3			RQE13Z	Caution Tag	1	
E19	RJP6G1Z	Plug, 6 Pin	1			RJP120ZS	Plug, Power Cord	1	△
E20	RHG590Z	Rubber	2		PACKING MATERIALS				
						XZB36X35A04	Polyethylene Cover for Speaker	2	S
						XZB60X50A01	Polyethylene Cover for Main Cabinet	1	S
						RPN3784Z	Pad	1	
						RPN3787Z	Pad	2	
						RPN9424Z	Pad Complete	1	
						RPK1505Z	Gift Box	1	
						RPN3816Z	Pad	1	
					PRINTED MATERIAL				
						RQX4024Z	Instruction Book	1	